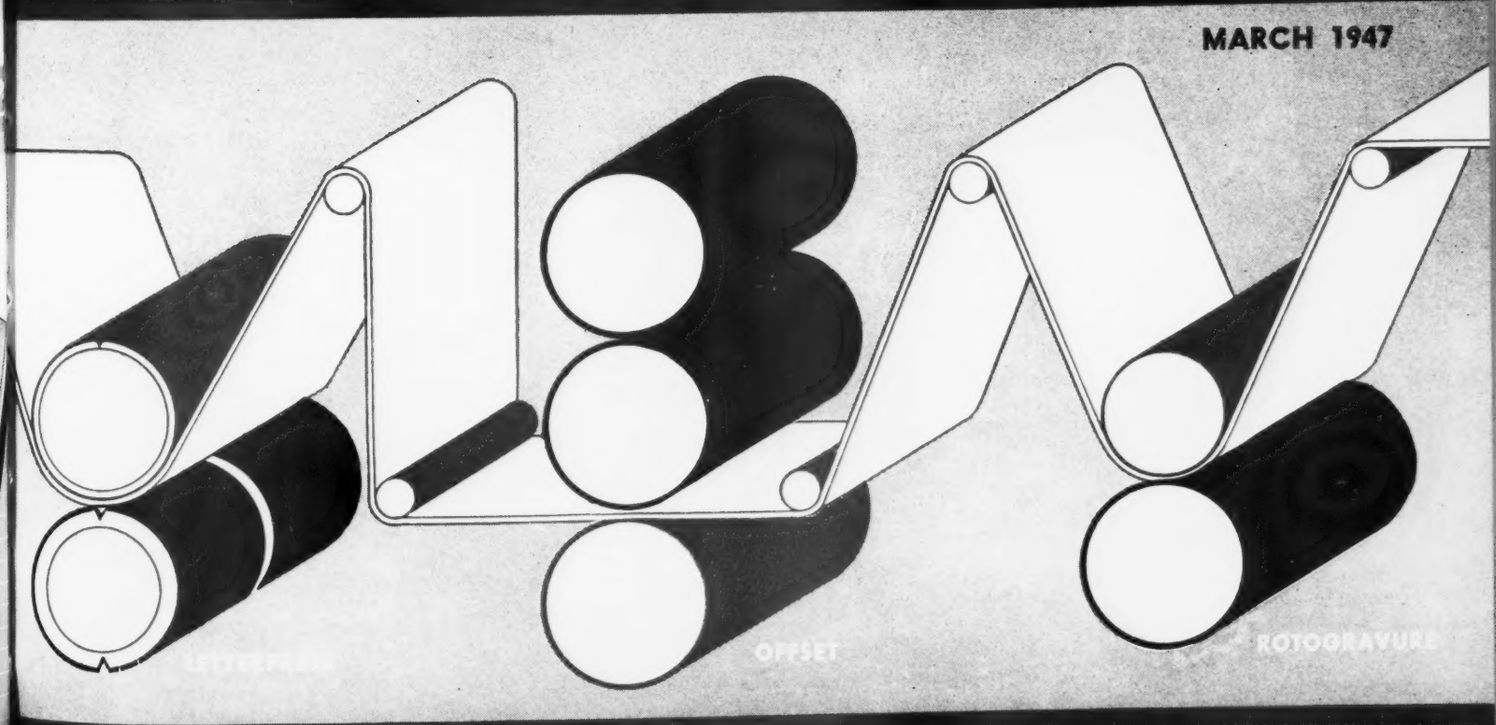
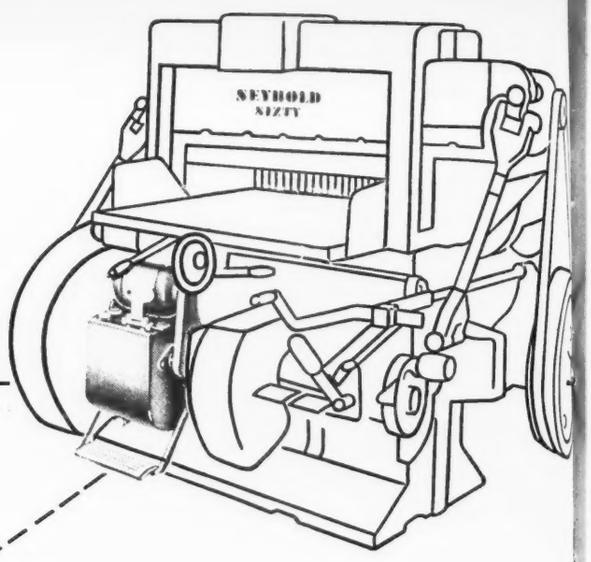
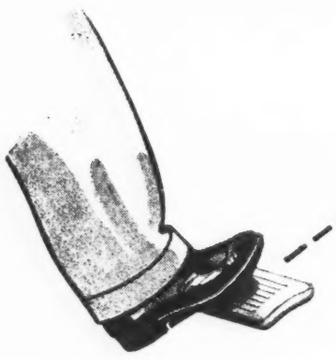
Engineer





HOW THE SEYBOLD "SIXTY" SERIES

OF PAPER-CUTTING MACHINES



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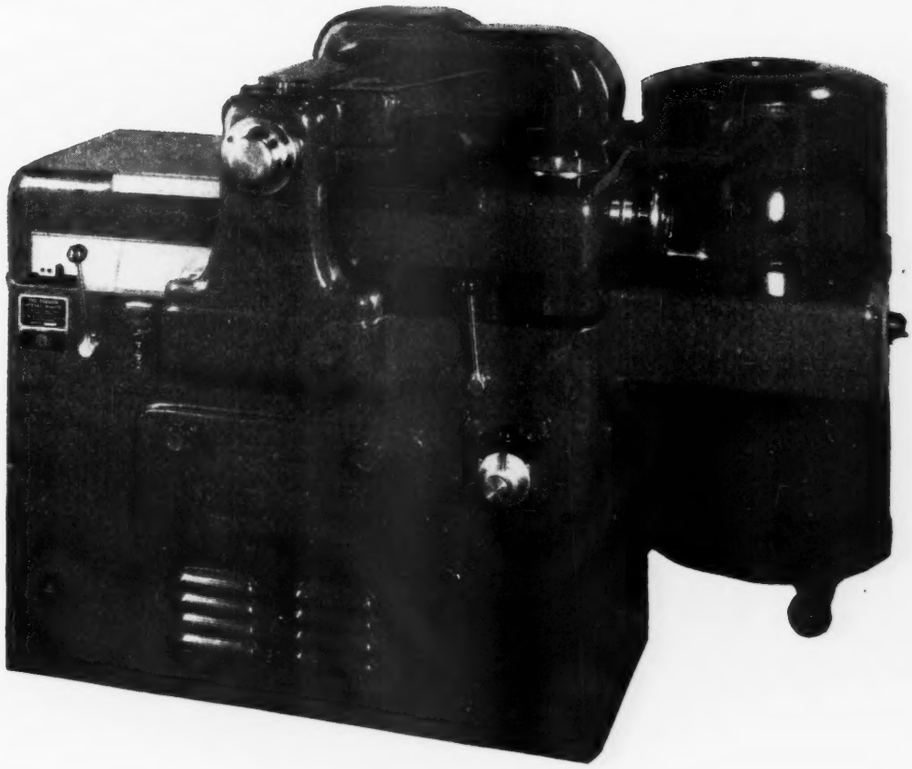

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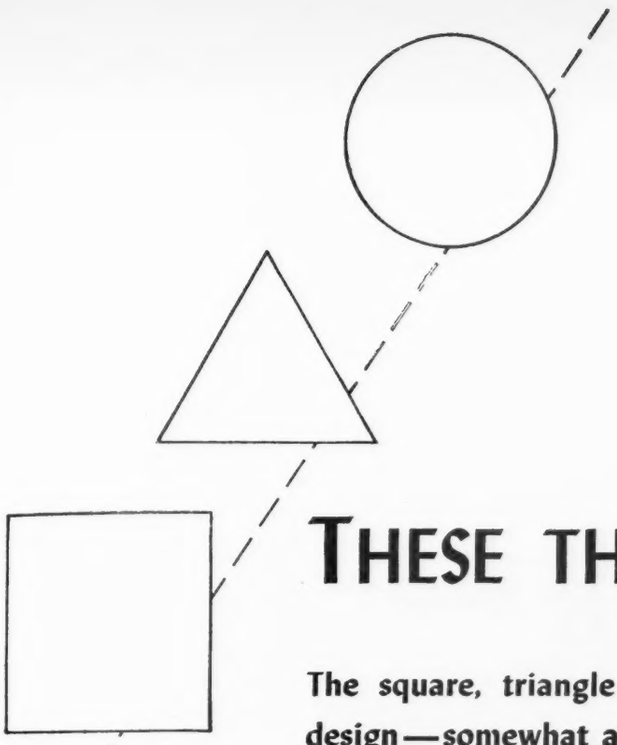

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---the large majority of Miller users now ordering more Miller Automatics.

---the hundreds of spontaneous testimonials which recommend Miller Automatics.

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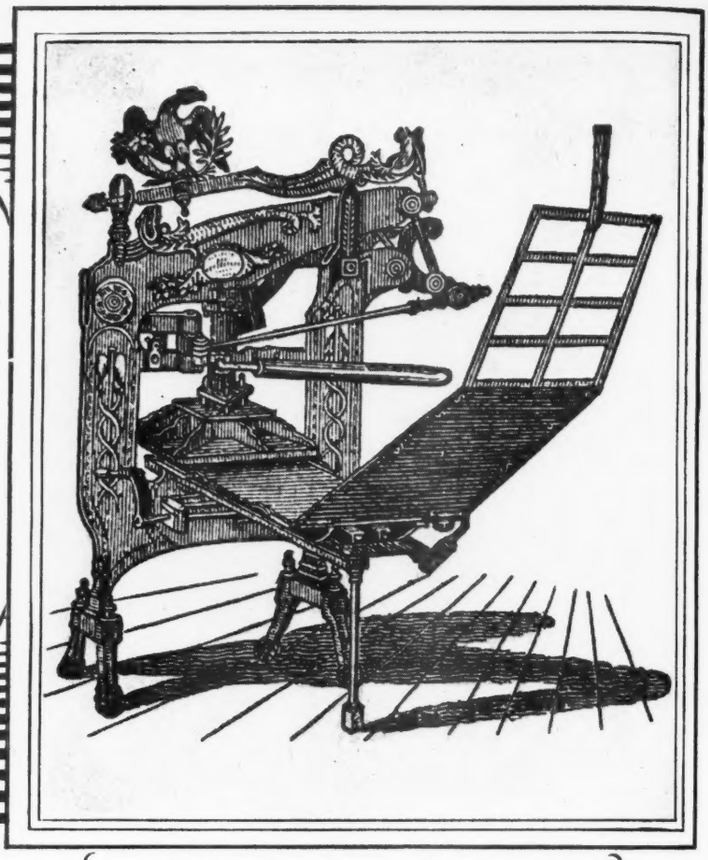
rollers helped printers get clearer impressions



CLYMER'S COLUMBIAN PRESS: Circa 1816

"The labor of working one of the old screw presses is equal to that of the ploughman in the field," commented an early writer. But George Clymer of Philadelphia lessened the toil by inventing the first American "hand press" which substituted a system of levers for the screw.

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PRINTING EQUIPMENT *Engineer*

Volume 73 Number 6

A technical publication for the mechanical executive responsible for printing production, equipment and supplies in the commercial, magazine, private plant and daily newspaper field.

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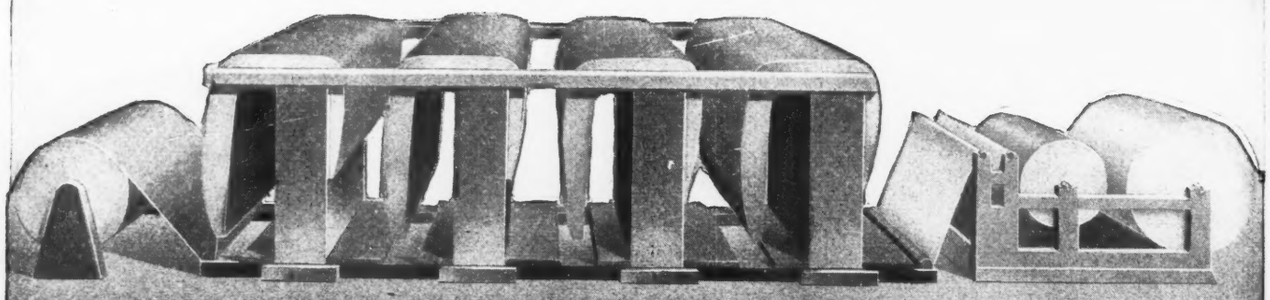
Announcing THE NEW Sperry

ROTOGRAVURE PRINTER*

and **ROTARY LETTER PRESS**



Sperry's fundamental engineering skills plus the printing industry's outstanding designers bring to the trade rotogravure and rotary letterpress printers, permitting amazing new levels of efficiency and productivity.

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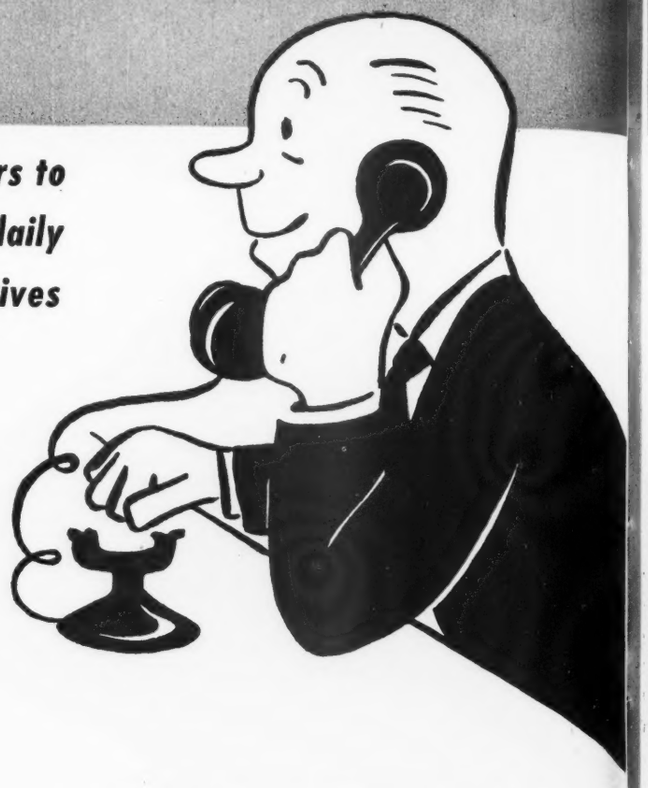
WE'RE BUILDING ONE FOR THE PHILADELPHIA INQUIRER

HAVE YOU HEARD ABOUT



Here are the facts . . . here are the answers to your questions . . . questions we receive daily about this newest of newspaper press drives

1 WHAT MAKES IT NEW?

Adjustable-speed d-c motors for press drives are operated directly from a-c power converted and controlled by ignitron rectifiers.

2 IS IT SUITABLE FOR MY PRESS?

It is applicable to *any* type of newspaper or rotogravure press. However, it is particularly suitable for large-size metropolitan installations.

3 WILL IT SUPERSEDE THE CONVENTIONAL TYPE OF DRIVE?

Not necessarily. As far as we can determine now, many plants will still find our a-c double-motor drive equipment best suited to their needs.

4 WHAT ARE ITS ADVANTAGES?

a. *Flexibility*—Accommodates any press combination and simplifies drive selection and transfer for these press combinations. Power source is selected automatically as setup is made.

b. *Minimum speed variation with load*—of particular interest to rotogravure operators. A unique electronic circuit provides practically constant speed for all values of torque, therefore, once a speed is set it will hold irrespective of load changes.

c. *Reduced power loss*—no power is wasted in secondary resistor heat. There is no longer a penalty for operating below geared speed down to one-half speed.

d. *First real stepless speed control*—speed steps between threading and maximum are practically infinite in number. Acceleration and deceleration are accomplished by current control to provide smooth, continuous press operation.

e. *Simplified drive installation*—the same motor is used for threading, jogging and running. No longer is it necessary to maintain and install slow-motion motors, overrunning clutches or drive brakes.

f. *Simplified control installation.* This metal-clad factory-wired control lends itself to modern layouts and load-center adaption. No speed-regulating resistors or extra control-ventilating equipment required.

5 IS IT EASY TO OPERATE AND SERVICE?

Very. The press is operated through conventional push-button stations and except for noticeably smoother performance, the pressman will scarcely realize he is running an entirely new system.

6 HOW ABOUT MAINTENANCE?

Maintenance personnel can easily and quickly be trained to service electronic equipment. The only moving part is the motor rotor. All the rest of the equipment is static.

7 ARE ANY OF THESE DRIVES IN OPERATION?

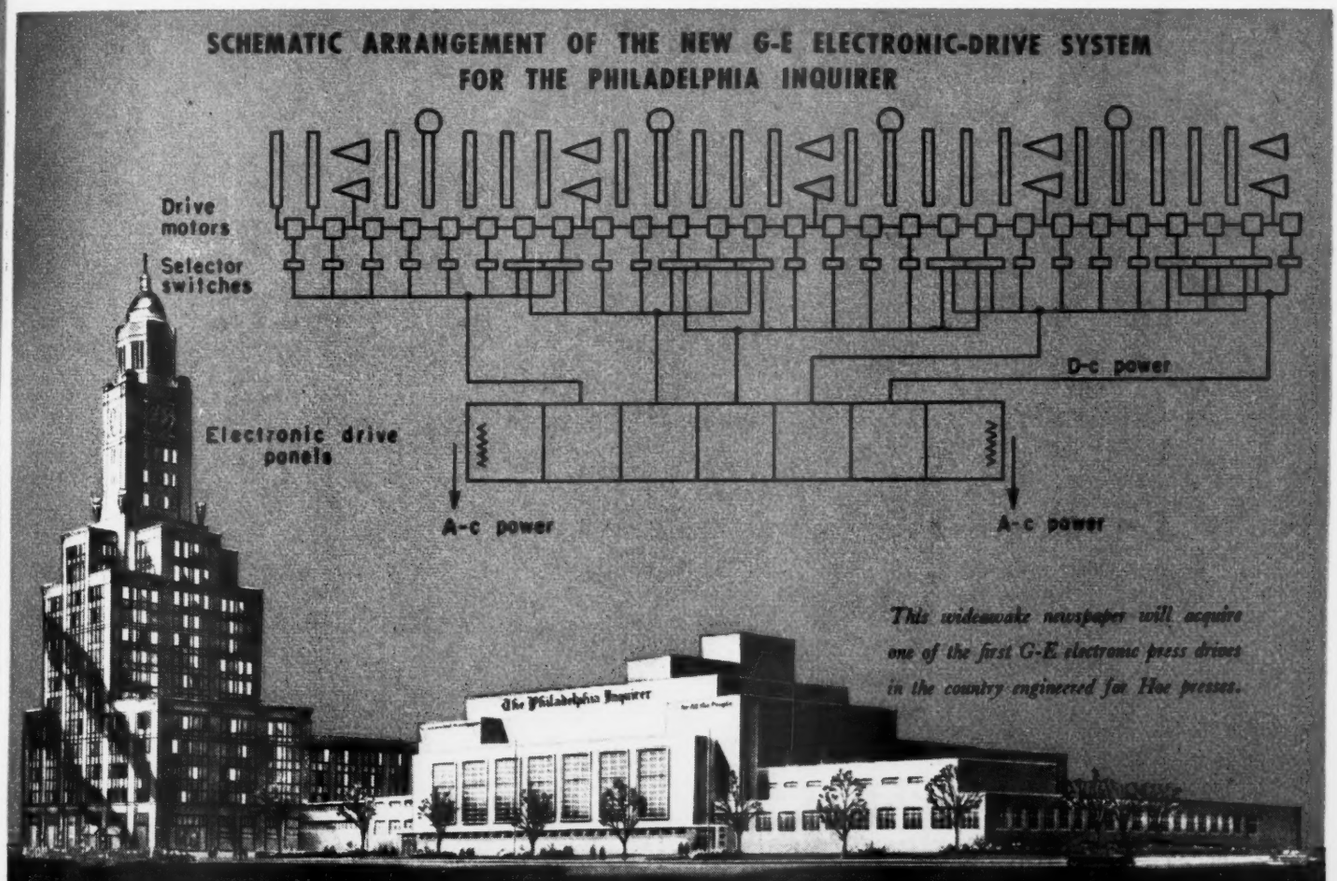
This is a postwar development for the printing industry. However, all phases of the application have been tried and proved in many other industries. Several progressive publishers have already placed orders. Take a tip from them, and before you select another drive, evaluate the savings in operation, installation, and maintenance costs offered by the electronic drive.

G.E.'s NEW *Electronic* PRESS DRIVE?

Just remember these facts about the electronic drive—by means of ignitron rectifiers, a-c power is converted to drive adjustable-speed d-c motors for operating the press. The control and rectifiers are housed in metal-clad, dead-front, cubicle-type cabinets. All equipment is compact, neat, out-of-the-way. Standard accessories are used—push-button stations, web breakers, etc.

The drive has been designed by engineers long familiar with newspaper-press requirements—men whose job it is to help you obtain the best type of drive for your press. These men, or our printing specialists located near you, will be glad to give you more information about our equipment. Simply write or phone our nearest office.

Apparatus Department, General Electric Company, Schenectady 5, New York.


SCHEMATIC ARRANGEMENT OF THE NEW G-E ELECTRONIC-DRIVE SYSTEM FOR THE PHILADELPHIA INQUIRER
Drive motors
Selector switches
D-c power
Electronic drive panels
A-c power
A-c power
This widewake newspaper will acquire one of the first G-E electronic press drives in the country engineered for Hoe presses.
The Philadelphia Inquirer

EVERYTHING ELECTRIC FOR THE PRINTING INDUSTRY

GENERAL ELECTRIC

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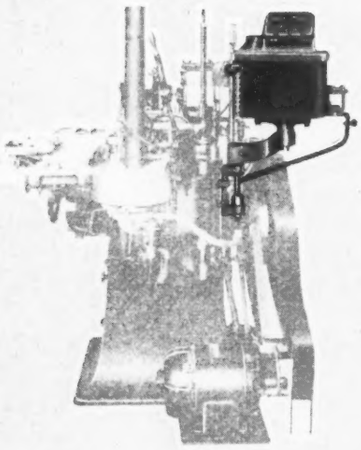
MONOMELT



MONOTYPES

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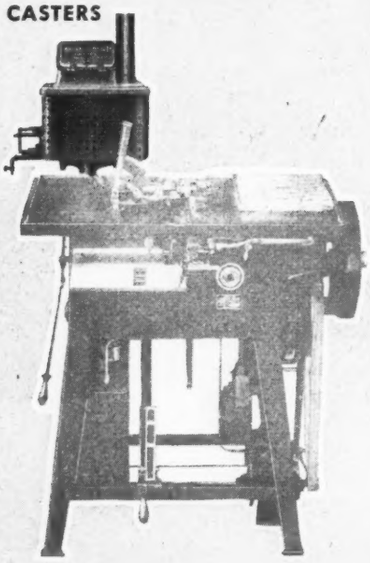
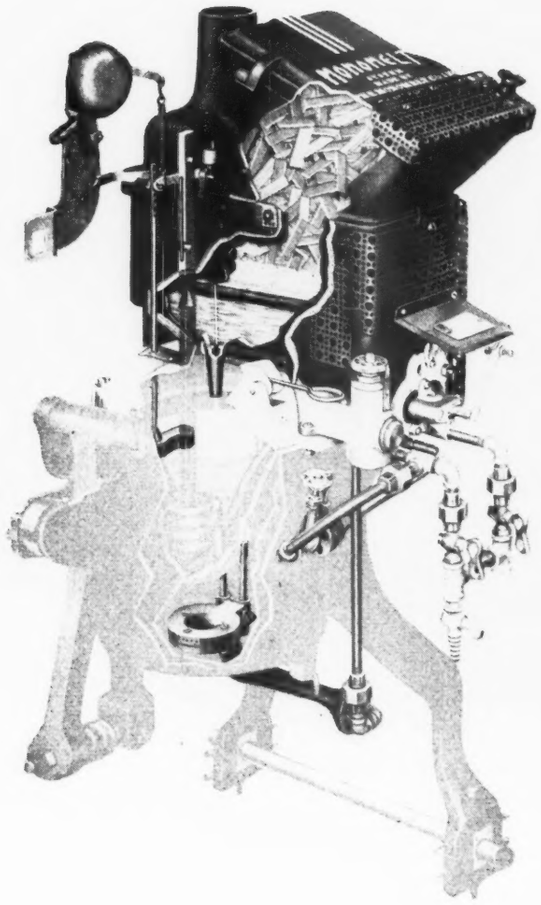


RULE CASTERS



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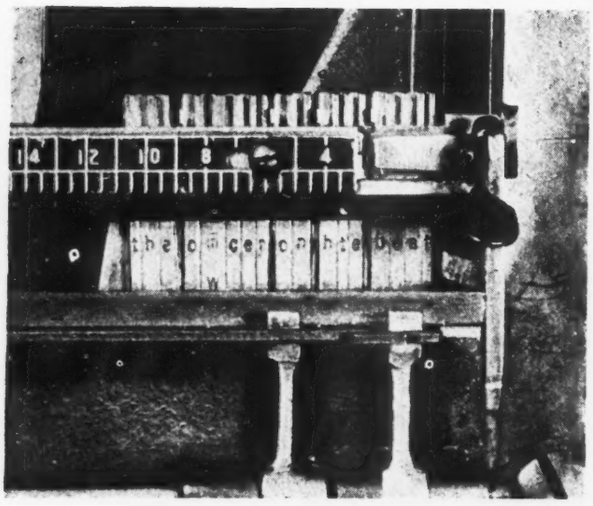
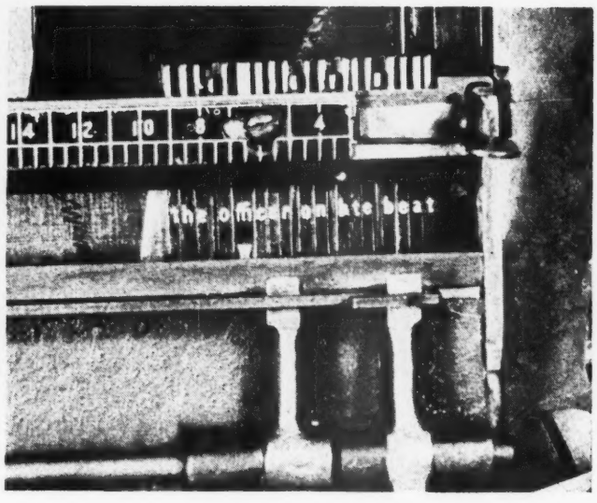


IN THIS LINE



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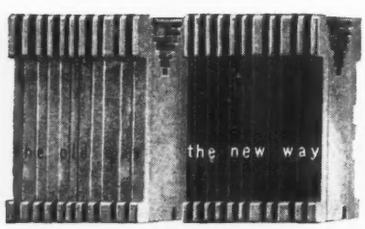

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Matrix Contrast Service

By folks who don't know better, the pig is often regarded as a symbol of uncleanliness. Such an appraisal does the pig an injustice, for he is just as clean as folks will permit him to be. The aspiration to be as clean as a pig may or may not be too high for human attainment, but it is something to "shoot at." There can be no question concerning the human tendency to follow the line of least resistance. The further you can go toward making it easier to be clean in the printing plant, the higher will be the degree of cleanliness achieved.

KEEP IT CLEAN!

A homily for mechanical and production executives upon lighting, paint and plant cleanliness

By ROBT. W. DICKERSON*

***Architect and Engineer, Maier & Walsh and Dickerson, Cleveland.**

ILLUMINATING engineering has gone far to compensate for the visual handicaps man imposed upon himself when he "came indoors." The amount and kind of light he needs for his varying activities have been determined and proper equipment for meeting those requirements has been developed and perfected. As a matter of actual fact, artificial illumination, properly designed and provided, will generally afford him with sight conditions superior to those afforded by the best natural conditions. And, it has advantages of uniformity and constancy which natural illumination can never equal.

In the design of any lighting installation the light reflecting qualities of the walls, ceilings, and sometimes even the floor, are taken into account. Obviously, a greater output of light units is required to illuminate a space having dark walls and ceilings than one in which these surfaces are light in color and have a high factor of reflection. If highly reflective wall and ceiling surfaces are important in the design of a lighting system, they continue to be important throughout the life and use of the system. Any deterioration in their light reflective qualities will obviously lower the efficiency of the lighting system. That is true both of the lighting units themselves and of the surrounding reflective surfaces.

A fundamental principle in the design of lighting fixtures, particularly those for industrial use, is that all reflecting surfaces shall be readily cleanable. Only in degree does this requirement vary for the walls and ceilings of spaces to be lighted, and it is obvious that unless they are maintained at a high state of reflectivity, lighting efficiency will drop. It is not unusual to find instances where lighting performance has deteriorated many percent due to the accummulation of dust, grease, soot, ink mist, etc., both on the lighting units themselves and on the surrounding surfaces.

Paint technology has also gone far, in collaboration with illuminating engineering, in the determination of colors which provide the highest reflective values consistent with eye comfort. They have gone further: they have delved into the field of color contrasts and values for working surfaces, all with the objective of making it possible for men to see better, longer, and with less eye strain and fatigue. Along with these developments has also come improvement in the wearing quality of surface coatings and their ability to stand up under the maintenance necessary to keep the surfaces clean.

Wall, ceiling, and other surfaces which are expected to contribute to better lighting through light reflection should (a) be of a material or construction which affords the least possible lodgement for grease, grime, dust, etc., (b) have surface coatings (paint) which are smooth and free from textured face and which have the necessary toughness to withstand repeated cleanings, and (c) having provided cleanable surfaces, they should be *cleaned*, along with the lighting units, at sufficiently close intervals to keep light reflection at a high level.

In no industrial field have these suggestions a more direct application than in newspaper and printing plants. Many of the production processes in these industries generate smoke, smudge, dust, ink mist, etc. which soon coats all surfaces to which it can cling. Continuous cleaning s the only process by which good working conditions can be maintained and no labor investment will pay better dividends. If care is used in the design and construction of plants to avoid every possible nook and cranny, crack and crevice ledge and shoulder to which dirt can adhere or accummulate a long step will have been taken to reduce the labor and cost of keeping a plant clean. In many departments it is not practical to "hose out" an area and flush away the dirt. It is possible and practicable, however, in almost any part of a plant to avoid corners and sharp angles from which dirt can not readily be swept and in which in time, the dirt or grime will form a cove or round which should have been provided in the construction.

Not all cleaning contributes to better lighting, although good lighting always contributes to better cleaning. A clean plant is a plant which is a source of pride and satisfaction, both by the management and by those who work there. A plant that is kept at a high level of cleanliness and maintenance will suffer less abuse and neglect by its occupants. Constant cleaning and the persistent use of the paint brush does pay dividends.

Many, many factors contribute to plant cleanliness. Many of them do not add materially to cost, if at all. It is important that their value be appreciated and their availability known. Walls or wainscots of glazed masonry units add somewhat to cost, but not beyond their value to the plant. They not only provide a dirt and wear resistant surface that is easily cleaned, but they also do service as a structural material.

Sanitary laws and ordinances, as a rule, prescribe minimum requirements for toilet, locker, and wash rooms. Nonabsorbent wall and floor materials usually satisfy these requirements. There is much more that can be done, however, to make such areas really clean. Moreover, it is in the providing of these comfort facilities that personal relationships are strengthened or "take a beating." All intersections between floors and walls or other vertical surfaces should be rounded or coved, and floor drains should be provided so that the floors can be hosed out. Wall hung fixtures and overhead supported stall partitions reduce to a minimum the obstructions to mop and brush which usually scrape off and hold dirt. Poorly lighted corners which can accummulate paper, dirt, and trash are certain to do so.

New Ink Dries on Press When Solvent is Squeezed Out of Resin Just Like Water Out of Sponge

IMPROVEMENTS in printing methods, simplifying and speeding up printing processes, are expected to take place as the result of a new fast-drying printing ink developed by scientists of the Goodyear Research Laboratory in Akron, O. The new printing ink represents a radical departure from previous products, Dr. L. B. Sebrell, director of the laboratory says. It grows out of researches which the laboratory has carried on over a period of years in the field of synthetic resin.

The new development for the printing industry is a synthetic resin of the Pliolite type. To date, the practice has been to make printing inks with the aid of vehicle containing drying oils. This vehicle was mixed with a solvent and the desired pigment. After the solvent evaporates from the freshly printed page, the oils oxidize and dry. Inks of this type are slow to dry to a smudge-proof state and the result has been many complications in the printing industry, requiring various drying methods.

Printing inks are prepared under the new method developed at the Goodyear Research Laboratory by grinding together the new synthetic resin and the desired pigment. The mixture is then dispersed in a solvent, making a pasty mass that resembles present printing inks in consistency and appearance.

The behavior of the new inks, however, is quite different, Dr. Sebrell states. The grinding of the pigment into the resin produces a spongy mass which holds the solvent just as a sponge holds water, Dr. Sebrell explains. When the ink is used in printing, the pressure of the press squeezes the solvent out of the resin just as water can be squeezed out of a sponge. Since the resin itself requires no oxidation, it is dry as soon as what little solvent remains evaporates. This takes place so rapidly that drying is almost immediate.

Furthermore, because the resin behaves like a sponge, it does not lose the solvent until it is squeezed on the printing press. As a result, the ink does not dry on the rollers or in the reservoir. Dr. Sebrell says that the ink can be left in the reservoir on the press overnight without drying out. Because of this fact the new ink is expected to simplify and speed up printing processes.

Dr. Sebrell says that Goodyear plans to manufacture the resin only, selling it to ink manufacturers for the final steps in compounding the ink.

Typography Winners

For the third consecutive year, the Rhinelander (Wis.) *Daily News*, Clifford G. Ferris, editor and manager, has won the first place award for newspapers under 5,000 circulation in The Inland Daily Press Association typography contest. The contest is sponsored by the Northwestern University chapter of Sigma Delta Chi, national professional journalistic fraternity. By virtue of winning the first place designation three years in succession, the Rhinelander newspaper becomes permanent owner of the trophy.

Other winners in the under-5,000 circulation class were Columbia (Mo.) *Missourian*, second; Portage (Wis.) *Register*, third; and Carroll (Ia.) *Times-Herald* and New Ulm (Minn.) *Journal*, honorable mention.

In the 5-10,000 circulation class the Marinette (Wis.) *Eagle-Star* was awarded first place; Waukesha (Wis.) *Freeman*, second; Frankfort (Ind.) *Morning Times*, third; and Winfield (Kans.) *Courier*, and Boulder (Colo.) *Camera* honorable mention.

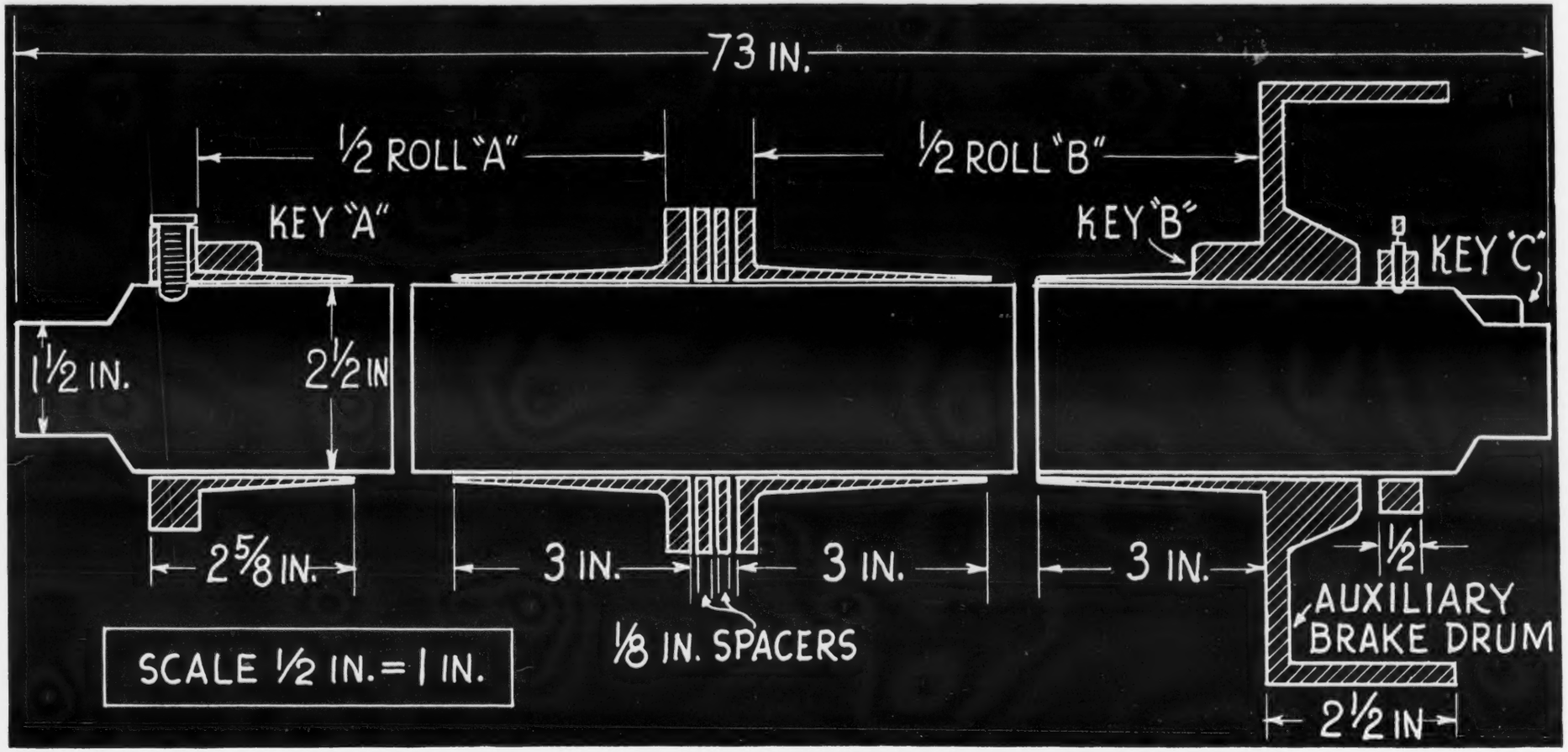
In the 10-25,000 circulation class, the Rochester (Minn.) *Post-Bulletin* was named the first place winner for the second consecutive year; Marquette (Mich.) *Mining Journal*, second; Iron Mountain (Mich.) *News*, third; and Ottumwa (Ia.) *Courier*, and Idaho Falls (Id.) *Post Register* honorable mention.

The Cedar Rapids (Ia.) *Gazette* was awarded first place in the 25-75,000 circulation class; Warren (O.) *Tribune Chronicle*, second; Flint (Mich.) *Journal* third; and Green Bay (Wis.) *Press-Gazette* and Appleton (Wis.) *Post-Crescent*, honorable mention.

In the over 75,000 circulation class the Salt Lake City *Tribune* was named first; Chicago *Sun*, second; Minneapolis *Star*, third; and Chicago *Daily News* and St. Paul *Pioneer-Press*, honorable mention.

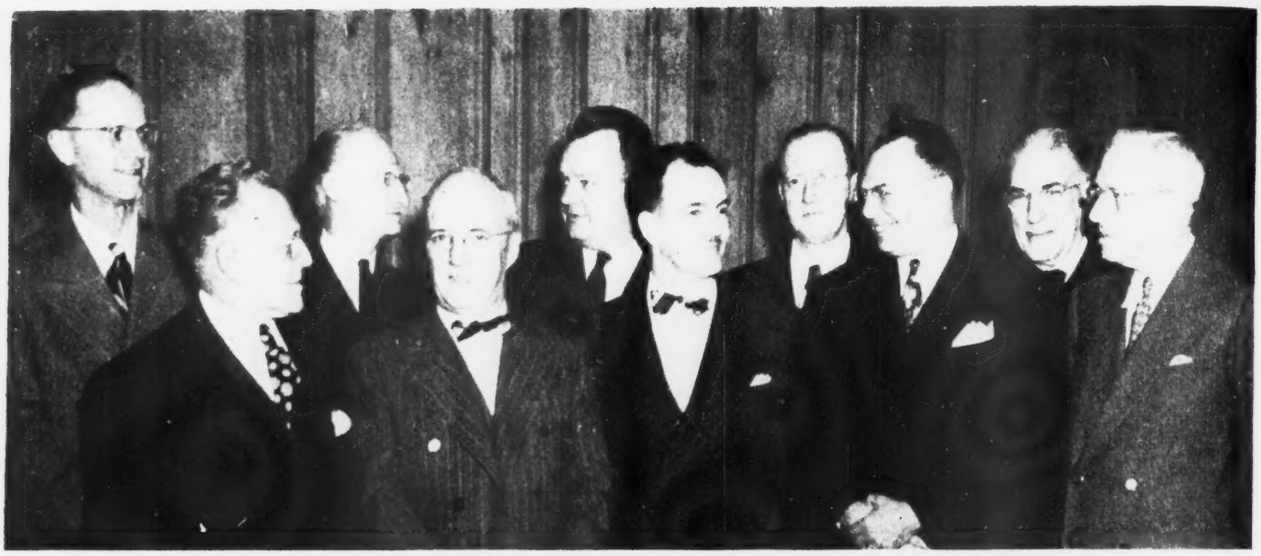
Acquires Telefax

Joint announcement was made recently by Finch Telecommunications, Inc., Passaic, N. J., and Automatic Electric Co., Chicago manufacturers of telecommunication equipment, of the completion of an agreement whereby the Automatic company has acquired rights under Finch patents to manufacture, and sell or lease, Finch Facsimile equipment. Finch Telefax, according to Capt. W. G. H. Finch, USNR, president of the Finch organization, is the name applied to the apparatus and methods used to provide high speed transmission of writing, pictures or printed material between any two points which are connected by a wire circuit such as a telephone line, or by a radio channel. Developed during the war, it has since been used for commercial purposes, including transmission of printed news, pictures, advertising, etc., by broadcasting companies to supplement audio programs.



Milwaukee Journal Arrangement for Running Two Half-Rolls on Single Shaft as One Full-Width Roll

Many newspaper plants increasingly have been compelled to turn to narrow width newsprint rolls. Obviously, the reason is the scarcity of print paper. In this connection we are showing scale diagram for utilizing split rolls developed in the plant of the Milwaukee *Journal*. John Keating, Production Manager of the *Journal*, tells us this arrangement has been in use for many years, and has enabled the *Journal* to run a four-page Green Sheet in daily editions without sacrificing press capacity. The arrangement shown in the diagram was developed to make full speed roll changes using Hoe tensions, pasters and reels. Roll *A* is locked to the main shaft through key *A*, and the regular hand tension (not shown) is used to control the web during the roll-changing period. Roll *B* rides on its own cones and is locked to the auxiliary hand brake through key *B*. The ⅛ in. spacers hold the two rolls apart and permit them to rotate independently of each other. This is necessary, because the diameters of the two rolls are considerably different as the paper unwinds near the core. The *Journal* reports that its success in making full-speed pasters with this device is equal to that of full-width rolls.



Some of the Committee and Speakers participating in the recent Cleveland Newspaper Advertising Reproduction Conference—Left to right (front row) are: M. G. Wenning, Vice President, Art Engraving and Colortype Co., Cleveland; Leon A. Link, Production Manager, Cleveland *Plain Dealer*; J. Homer Winkler, Asst. Supervisor, Graphic Arts Div., Battelle Memorial Institute, Columbus, O.; Lewis S. Fidler, General Advertising Manager, Cleveland *Press*; I. J. Collins, National Advertising Manager, Cleveland *Plain Dealer*. Second row (left to right): James Lewellyn, Cleveland *Plain Dealer*; Hal Malmquist, President, Hal Malmquist Studios, Cleveland; Eugene Williamson, President, Williamson & Co., Caldwell, N. J.; Richard Rairigh, Production Manager, McCann-Erickson Agency, Cleveland; George Fuller, Stereotype Supt., Cleveland *Press*.

National Ad Plates

good enough to print in the newspaper is objective of educational meeting held in Cleveland recently

By MacD. SINCLAIR

A VALUABLE and informative educational meeting with respect to the proper preparation of newspaper national advertising plates was held at the Statler Hotel, Cleveland on Tuesday, February 4. Almost 200 people attended the dinner and stayed for the speaking program immediately following. All those in attendance at the meeting were invited guests of the Cleveland Newspaper Publishers' Association, who jointly sponsored the meeting.

Discussions covered art copy technique, typography, photo-engraving, electrotyping, stereotyping and plastic plate reproduction. Leon A. Link, Production Manager of the Cleveland *Plain Dealer* presided as chairman.

The Cleveland meeting was the third of its kind to have been held. They were initiated by the Great Lakes Newspaper Mechanical Conference in 1945 in response to a suggestion offered by J. Homer Winkler, Asst. Supervisor, Graphic Arts Div., Battelle Memorial Institute, Columbus, O. The first occurred in Detroit in January 1946, and the second was held in Cincinnati in September 1946.

Briefly, the intent and purpose of these meetings is to educate every one concerned with the requirements peculiar to newspaper advertising plate reproduction extending all the way from art and copy preparation to the final advertisement in the newspaper.

Campbell Discusses Art Reproduction Requirements

Chairman Link first introduced Colin Campbell, associate account executive of the Campbell-Ewald Agency, Detroit, who spoke upon the subject of *Newspaper Art Preparation*. Mr. Campbell's address sparkled with suggested information as to the proper preparation, principally of art or illustrative material for newspaper advertisements. His address was authoritative and complete. Mr. Campbell stated he had had 22 years of experience in newspaper advertising reproduction. As the result of that experience he felt that the key to good newspaper advertising reproduction is in the art copy itself. There is no secret about the fundamentals of proper art copy preparation—it's a question of education among those people concerned. First of all, art copy must be suited to newspaper reproduction. Reproduction begins in the mind of the art director and the artist. The art director is in a position to transmit proper information to the artist, but if he doesn't do it the artist gets off to a bad start. Subsequently, if makeshift art is used it is not suited to the process.

A time and place to start with suitable art copy is with the art director who should be familiar with the requirements of newspaper printing. The story must be told and retold.

In preparing newspaper art work and photographic copy both must contain certain characteristics. These are (1) Strong light and middle tone values; (2) There must be pronounced separation in the highlight and middle tone values, or in other words a marked contrast. The speaker interjected a remark here that newspaper art copy often fails because the copy itself or the photo looks "jumpy". But by the time it appears in the paper the tones are considerably softened because of the reproduction losses; (3) The right type of photograph or art copy often appears harsh to the art director, who must learn how to hurdle the difficulties in judgment as to what is and what is not proper copy for newspaper reproduction; (4) There are precise limitations in the tone ranges which can be utilized in newspaper work. A 75 per cent black is the deepest tone that can be reproduced in a newspaper campaign extending across the country. The reason for this is that newsprint is as a rule an off color white of varying shades. Photographs intended for newspaper reproduction should be predominated by 10 per cent, 25 per cent and 50 per cent black tones. Heavy tones ranging from 65 per cent to 75 per cent can be utilized to advantage for making light areas stand out in contrast.

Referring to a strictly mechanical detail in newspaper advertising plate reproduction, he told his listeners that there are four removals in halftone depth by the time an illustration appears in a newspaper. These removals are as fol-

Just What Constitutes A Good Newspaper Advertising Plate?

PRINTING EQUIPMENT ENGINEER believes the regional newspaper national advertising plate meetings held in Detroit, Cincinnati and Cleveland could be made more effective. These meetings have been held to educate creators, buyers and manufacturers to enable them to furnish advertising plates that will reproduce well in the newspaper—in other words, a plate that is good enough for the purpose.

We have noticed that the meetings are characterized by a lack of definiteness with respect to certain plate specifications. It is true that fine speaking talent has performed before each of these meetings. But it is our feeling that a great deal of this information may be forgotten in a brief time because it is transmitted orally and is subject to retention through memory. It is suggested that two steps be taken to remedy the need: (1) Get specific with respect to major specifications for newspaper advertising plates *and* mats. (2) Issue a printed card, folder or hanger for wide distribution among artists, advertising agency men, photo-engravers and platemakers.

Some executives may argue that it isn't possible to set up specification standards for newspaper advertising plates. *Printing Equipment Engineer* isn't so sure that it can't be done. For instance, we know the advertiser doesn't understand why a plate prepared for one newspaper can't be reproduced in all newspapers; he doesn't understand that one paper may use 5/8 in. mat shrinkage while another may use 1¼ in mat shrinkage. Wouldn't it be possible to so set up specifications that the plate would be made especially for the high mat shrinkage paper and still would reproduce well in the low mat shrinkage paper?

There are several other phases of newspaper platemaking that could be corrected. One of these is the attitude of the plant superintendent or stereotype foreman who looks with high favor upon plastic plates. His experience so far has been extremely favorable as compared to electrotypes. During the past few years he has complained long and loud about the variable thicknesses of supposedly uniform 0.105 in. electros. He finds frequently that in the case of 0.105 in. electros one corner may caliper 0.099 in. and on the opposite corner the electro calipers about 0.107 in. These complaints about inconstant plate thicknesses have been too frequent to be ignored. In the case of the plastic plate, the experience of the mechanical executive has been happy at the expense of the electrotyper inasmuch as plastic plates are automatically almost constant in thickness because of the molding process used. Here is an opportunity to correct a faulty condition and to overcome a serious mental attitude.

Another irregularity should be considered by organized newspaper business executive personnel. So far as we have been able to ascertain, the average stereotype executive prefers a direct pressure mat from which to reproduce the ad in the stereo plate. Specifications to take care of this complaint could be included in standardized procedure. Advertising agencies could also be advised to check to see that they really get direct pressure mats instead of rolled mats when they order and pay for the direct pressure mats. We are not intimating that the substitution of rolled for direct pressure mats is a universal practice—but this practice has been mentioned in at least two regional educational meetings one of which is reported in the accompanying article.

With respect to illustrative art copy preparation, perhaps in formulating specifications for newspaper advertising plates, the gist of Colin Campbell's splendid and illuminating address given at the Cleveland meeting could be included. Tie this in with instructions to the photo-engraver to indicate etching depths, screens to use, avoidance of undercutting and shouldering in the etching, and the like.

At the moment, the universal complaint seems to be that the artist feels his brain children have been ruined, the photo-engraver says he can't produce good cuts with the copy supplied by the artist, the platemaker is in a dither because of both the artist's and the engraver's shortcomings, the stereotyper wonders why suitable plates or mats are not furnished to him with which he can do a good job, the pressman exercises his meager corrective resources in attempts to print as well as possible—in fact, in the end, everybody is disappointed.

We are glad the regional educational meetings have been held in the central states area. We hope the idea becomes contagious throughout the country. By and large, newspapers are responsible for the situation—they use mechanical methods which permit reproduction losses. The educational meetings should be continued, supplemented by printed standardized specifications which will go a long way in persuading those concerned to produce plates good enough to print in newspapers.

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lows: (1) Engraving to electrotype; (2) Electrotype pattern to a new electrotype; (3) Electrotype to page mat in the newspaper; (4) Molded mat to stereotype plate. During these successive steps there is a loss in the original engraving of approximately 0.004 in. depth.

Because of the loss of depth there is tendency for the halftone in the stereotype plate to pickup lint and dirt between the dots. When there is doubt about exactly which halftone screen to use it is better to chose the next coarsest screen because it betters the chances of good reproduction by just that much. Mr. Campbell stated that if one were to start with a 65 line screen, by the time it is reproduced in a stereotype plate, it is to all intents and purposes practically a 71 or 72 line screen when printed in the paper. He emphasized again that soft tones and gradations can not be retained in the newspaper.

In all events the artist should be told that art copy is intended for newspaper reproduction.

Mr. Campbell stated that line work in copy is foolproof as a rule. Scratch board and line technique by the artist are good for newspaper reproduction. The weight of the line copy must be strong enough to stand the successive removals previously mentioned. There should be too much space between the lines rather than not enough. For small size advertisements containing small size line work, separate art work should be provided. In other words, the same copy for large advertisement is not suitable for reproduction in a small advertisement. In using judgment about the suitability of copy for good newspaper reproduction borderline cases just won't get the breaks.

In closing, Mr. Campbell again stressed that education with respect to proper preparation of art copy should be repeated time and time again to the advertising agency and advertising personnel. He feels that regional meetings, such as the one held in Cleveland, are extremely valuable towards the accomplishment of better newspaper printing.

Rairigh Stresses Cooperation

Richard Rairigh, Production Manager, McCann-Erickson Agency, Cleveland, spoke upon *The Agency Production Manager's Viewpoint*. He stated that the problem of producing printable advertising copy and plates applies to the advertising agency as well as to the advertising office. He finds that it is a cooperative proposition. The production worker in the advertising agency should understand what is required for newspaper advertising reproduction. The advertising agency production man must work closely both with the advertiser and the newspaper in which the advertisement is to appear.

Like Mr. Campbell he stressed the necessity for educational activity at all times with respect to the technique for producing advertisements for newspapers. He mentioned the meetings that had been held in former years by the ANPA Mechanical Conference in which a sincere attempt had been made to try to establish workable relations between the mechanical departments of the newspapers and the production departments of the advertising agency. Since the discussions were limited to a narrow technical range because of limitations of the newspaper reproduction process, the agency men felt that the discussions were futile.

(Continued on Page 46)

EQUIPMENT & SUPPLIES

Dick Mailers Improved

A LINE of special models of Dick Mailers has been announced by C. P. MacArthur of that company. These models are equipped with a larger diameter propeller assemblies to permit faster addressing. It is claimed newspapers, magazines and direct mail pieces can be addressed in excess of 8000 per hr. The head of the propeller of the mailer is turned by operator's first finger to feed name and address past the knife edge. Lowering mailer to the mail table

Showing Dick Mailer in operation on operator's left arm. The first finger turns the head of the propeller and feeds the name and address past the knife edge. Lowering mailer to mailing table, the name and address is automatically sheared off and pasted on mailing piece.

automatically shears off slip and pastes it on mailing piece. Names and addresses may be printed or typewritten on continuous strips. If individual slips are used, they are pasted together in one continuous strip. The strip is wound around the reel and placed in the Mailer so the strip unwinds directly on the belt which carries the paste. The capacity is approximately 2000 names and addresses. Paste is automatically fed onto the belt from the paste reservoir. *Printing Equipment Engineer* will be glad to pass along your request for further information.

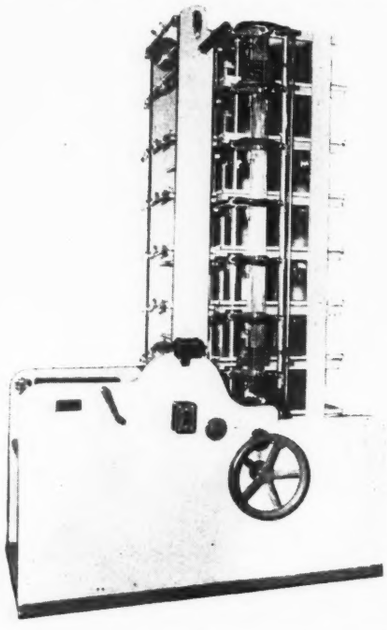
Dager Automatic Collator

SINCE publication of description of the Dager Automatic Sheet Collator in the March 1946 issue of *Printing Equipment Engineer*, Albert Dager of the Dager Maniform Co., formerly Dager Printing Co., has announced development of Model No. 1, for the automatic assembling of manifold forms consisting of carbon and bond sheets. The new model shown in the accompanying illustration is equipped with seven stock tables, vertically disposed. Other models of three and five shelf capacity will be available.

Mr. Dager's present plans are to build a few machines for local production purposes. These will be operated over a several-month period before orders can be taken for delivery outside the Los Angeles area.

The stock to be assembled is placed in order on the superimposed stock tables. Traveling in front of the tables is a continuous gripper conveyor which receives sheets simultaneously in proper sequence from each table. The gripper conveyor then deposits the sheets in order in a receiving bin. The receiving bin is equipped with a rotary jogger for high speed work.

Capacity of each stock table is about 4 in. deep stock pile of sheets, the sheet capacity of each table being 5½ in. by 8½ in. to 13 in. by 20 in. When fully loaded the capacity of the machine will



View of Dager 7-shelf Automatic Collating Machine for assembling sales books and similar work. Machine in this illustration is equipped with continuous gripper conveyor which deposits sheets in proper order in the receiving bin.

be approx. 110 lbs. of stock. Speed of the machine is at present estimated at up to 2000 sets per hr. for the 7-part machines; higher speeds for the smaller units.

The seven stock tables are equipped with one common pair of side guides which, when set at a given width for one table, is automatically set for all seven tables. The side guides which consist of hollow tubes, serve also as blowers. They send two streams of air to the sides of the stock. The tubes are adjustable with respect to air stream angle against the sheets. Motive power required to operate the machine itself is 1/6 h.p. Pump and machine will be powered by one ½ h.p. or ¾ h.p. motor, with variable speed device for the collating section.

Floor space required is 26 in. by 55 in.; height, 80 in. (to be reduced to 72 in. on future models). In addition to the gripper conveyor method, if and when required a vertical belt delivery is applicable to machines handling non-carbonized forms.

Floor space, 26 in. by 55 in.

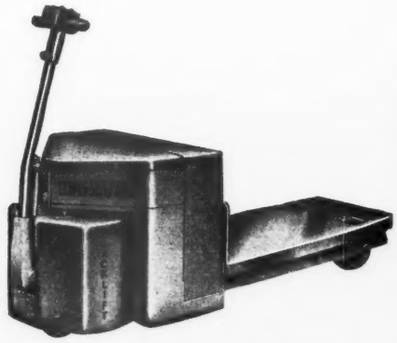
It is expected to issue an illustrated bulletin shortly in which the machine will be described fully. Commercial production of machines will begin as soon as materials conditions permit. Meanwhile, the bulletin will be sent to those requesting it through *Printing Equipment Engineer*.

Bearing Folder

A 4-PAGE illustrated bulletin has been issued by Miniature Precision Bearings, Inc. Five series of miniature ball bearings for precision instruments and mechanisms are described; radial, super-light radial, pivot, angular contact and thrust. Specifications are given including load ratings recommended for typical requirements. Applications cover wide temperature ranges, and as components of such items as cameras, meters, fractional h.p. motors, winding machines, etc. A copy of the bulletin may be secured upon request to *Printing Equipment Engineer*.

Power Jacklift

VERTICAL handle operation and the electric brake are featured in Lewis-Shepard's new power jacklift, built in both platform and pallet models. The power jacklift is an electrically operated hand lift truck with electric button operation, located in the handle head. All operations of this truck can be performed with the handle vertical. Let go the handle and the electric brake will stop the truck. In the vertical position or when lowered, the handle has a steering arc of 200 deg.



View of Lewis-Shepard's platform model jacklift truck.

Both models are driven by an electric master drive unit. The gear drive and

Type Indicator For Layouts

MAKING rough layouts and comprehensives closely approximate finished proof without being set up in type, is now possible with the L. R. Type Indicator. The principle of the indicator involves a group of twenty-four small wheels. Each wheel has a particular type face reproduced in rubber letters around its circumference. The operator selects the type face he desires, attaches the wheel to a handle and prints in copy lines as he would with a copy pen.

L. R. Type Indicator Co., the manufacturer, states that the user may indicate subcaptions in red and blue as well as black, over pastel chalks, airbrushed surfaces, on layout paper and illustration board. The type faces used in the set of twenty-four wheels, the company claims, were chosen by a group of well-known typographers, art directors, and ad men in the advertising field. A supplementary series of characters such as stars, dashes, dots and borders is also available in addition to the master set of type faces. Further information will be sent upon request to *Printing Equipment Engineer*.

The L. R. Type Indicator aids in producing rough or comprehensive type layouts by simulating subheads and body copy in the type face desired.

wheels are mounted on ball bearings. Trucks are available in several lengths. Further information may be obtained from Lewis-Shepard Products, Inc., or *Printing Equipment Engineer* will forward your request.

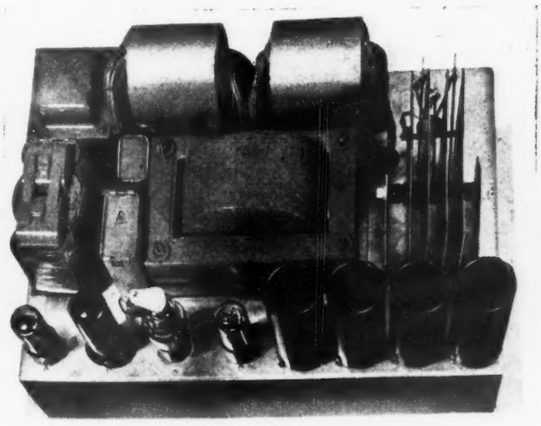
Voltage Regulation Unit

REGULATED d.c. voltages at currents and stabilities obtained with batteries are now available through a line of voltage regulation units, called Nobatrons, which have been announced by Sorensen & Co , Inc.

The uses for Nobatrons are in d.c. ammeter calibration in experimental, standardization and quality control laboratories in photographic studios to replace batteries for furnishing power to light sources; in battery operated relays; in supplying current to filaments of d.c. amplifiers; in other places where it is desirable to replace a battery with a continuous regulated supply; and to eliminate a power pack source.

Nobatrons, available in six standard models, operate on a 95-125 volt a.c. source of 50 to 60 cy. and provide amperages of 5, 10 or 15 with output voltages of 6, 12 or 28 respectively. Regulation accuracy of ½ of one percent, maximum ripple voltage (rms) of one percent and recovery time of $^1/_5$ of a sec. make Nobatrons suited for applications where constant, unvarying d.c. voltages are required.

Control features of the Nobatron line include an on-off switch, a voltage adjustment, a control circuit fuse and a pilot light. Models available either for panel mounting or in a cabinet. A table showing performance factors of various models is available upon request to *Printing Equipment Engineer*.



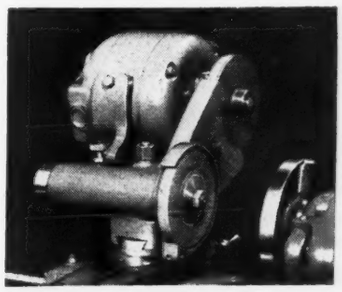
Nobatrons to be used in photographic studios to replace batteries for furnishing power to light sources.

Grinding Attachment

AN electric grinding attachment for use on lathes and other machine tools has been developed by the South Bend Lathe Works. Designed primarily for precision external grinding, it is equipped with a 4 in. by ½ in. grinding wheel driven by a constant speed continuous duty ¼ h.p. motor. Available with frame sizes to fit various sizes of South Bend Lathes.

The grinding wheel spindle runs on pre-lubricated sealed ball bearings. Tension adjustment is provided for the V-belt which connects the motor with the grinding wheel spindle. Both the grinding wheel and the V-belt are enclosed in a single guard.

Spring stops for grinding straight and spiral fluted reamers and cutters, diamond dressers for truing the grinding wheel, and holding fixtures for the dressers can be furnished for use with this grinding attachment. Grinding wheels are available in several grades for grinding various materials. For more complete information about this grinding attachment write to *Printing Equipment Engineer*.



Electric grinder mounted on compound rest of lathe.

PNPA Conference

Production problems will be emphasized by a panel of newspaper mechanical department executives at the annual PNPA Mechanical Conference on April 11 and 12. The conference will be held at the Penn Harris Hotel in Harrisburg, Pa. Nicholas M. Fellman, mechanical superintendent of the Chester (Pa.) *Times*, is chairman of the conference committee. Time will be given at each session to representatives of supply and equipment firms to answer questions and to participate in discussions.

New brick building home of the Beck Engraving Co., Philadelphia, in which 150,000 sq. ft. of floor area are provided at the corner of Seventh and Sansom Sts.

Beck Occupies Larger Building

IN APRIL the Philadelphia plant of the Beck Engraving Co. will be moved into a building with 150,000 sq. ft. of floor space four times the present floor area. The former printing plant of the *Public Ledger* was purchased in August 1946. The layout of the new building is such that straight line production will be achieved and each department will have its own floor. The art department and general offices will be located on the fourth floor of the building. The third floor, with skylights, will house the photo-engraving department. Gravure engraving and printing will be on the second floor and letterpress printing on the first floor. The basement extends under the entire building and will be used for paper storage facilities.

Located on the northeast corner of Seventh and Sansom Sts., the new building is just across the street from the old building. The problem of moving without interruption production presents some interesting problems. Fortunately for those responsible for the moving operation, much new equipment has been purchased for both the engraving and printing departments. This new equipment was ordered in advance so that its delivery coincided with the completion of the building.

The engraving department will be moved over the week-end the first of April. Moving the printing department will require about six months time. As new presses are received and put into operation, the old presses will be moved or dismantled and sold.

The Beck Engraving Co. celebrated its 50th anniversary last year and the current program marks another milestone in its growth.

Reports to Stockholders

"Costs to the newspaper publishing business have never before risen so fast in so short a time as they have during the last six months," Gardner Cowles, president of The Register and Tribune Co. said recently at the annual stockholders meeting. The cost of the newsprint has gone from its prewar price of $45 per ton to $85 with rumors of a further price increase still ahead. The *Register* and *Tribune* consumes in excess of 30,000 T. of newsprint per year. Mr. Cowles pointed out that although total revenue of the company increased substantially during 1946, expenses rose more rapidly than revenue and that 1947 will be a difficult year for all publications if costs continue to rise.

Resolutions were adopted expressing the deep loss which the company suffered in the recent death of Joseph F. Perzdirtz, a director of the company.

Pictorial Trip Through Plastic Molding Department of Midwest Electrotype Plant

A mid-west electrotype plant recently installed one of the Monomelt equipments by means of which molds for electrotyping are produced in a plastic sheet. Many of our readers have informed themselves about this most important advance in electrotyping, but they have not seen the equipment developed especially for the plastic molding process. Instead of molding in wax, the mold is made in a plastic sheet approx. 0.030 in. thick.

Another important feature of the process is that the use of graphite to make the molds conductive in the deposition of the copper shell is entirely eliminated. Consequently, those electrotypers using the process are rather joyful in being able to keep clean the plant as well as the clothing worn by workmen. Now, we'll take you on a pictorial trip through the molding and silvering sections of an electrotype plant. The four molding operations performed on this machine are: (1) Tempering of the form; (2) Pre-heating the plastic sheet; (3) Molding the plastic sheet into the form, and (4) Cooling the thermoplastic sheet to harden it.

1.—Complete Monomelt Form Tempering Table and Molding Press is shown here. At the right is the tempering table. Before the pattern plate (or the actual type form) is entered into the molding section, it is pre-heated to proper molding temperature. The tempering table is equipped with two pre-heating slabs controlled by individual thermostats to maintain constant temperature. All press operations are push-button controlled, including positive control of the preset pressure and the mechanical transfer of the form, plastic sheet and blanket through the press where the various operations are performed. Thus, by successive steps, the operator brings the form up to proper molding temperature, softens the plastic sheet, molds the plastic sheet into the form, and cools the thermo plastic sheet after molding to harden it.

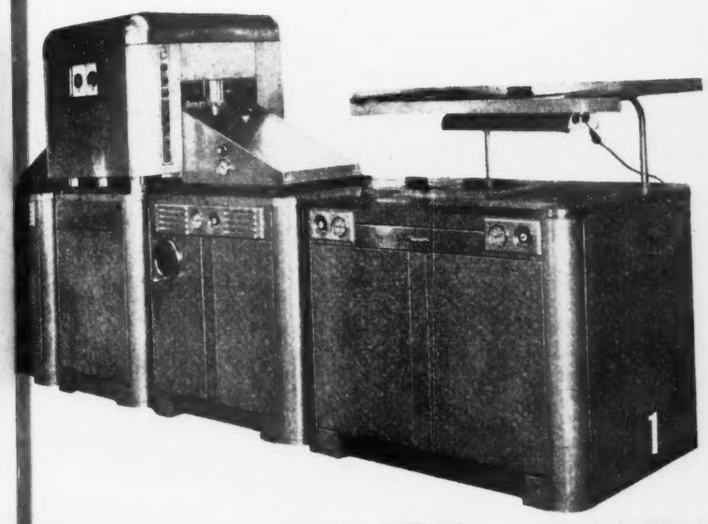
2.—The Tempering Table. After the form has rested upon the heated tempering table for a definite period of time, the operator checks the temperature of the form with a surface-contact pyrometer. The temperature being satisfactory, the form is slid under the plastic pre-heating platen shown in Fig. 3.

3.—Here the form (in this case the form consists of a large section of metal base with a photo-engraved pattern plate upon it, entirely surrounded by bearer strips which take the thrust of the platen when the plastic sheet is molded. The operator is about to press the button which will lower the pre-heating platen down upon the plastic molding sheet resting on the form in this picture. A sheet of holland cloth and a blanket will be placed on the plastic sheet before the pre-heating platen is lowered. After the proper time interval, the platen will rise and the form assembly will be carried forward automatically to the cooling platen.

4.—After the plastic pre-heating operation has been completed as shown in Fig. 3, the form is slid automatically under the cooling platen shown in this picture. The molding sheet being thermoplastic in nature, it is necessary to harden it by cooling with the water-cooled platen. In this picture, the plastic cooling period has elapsed and the operator is stripping the plastic mold from the form. This plastic mold now goes to the sensitizing and silver spray booth.

5.—The last operation necessary before the plastic mold is sent to the plating tank is to make the mold electrically conductive for deposition of the copper shell. Here the operator in the sensitizing booth is washing the plastic mold before applying stannous chloride solution with a compressed air spray.

6.—Final operation is to take the sensitized plastic mold to the silver spray booth. Here the mold is sprayed with silver solution before it is placed in the electrolytic bath.



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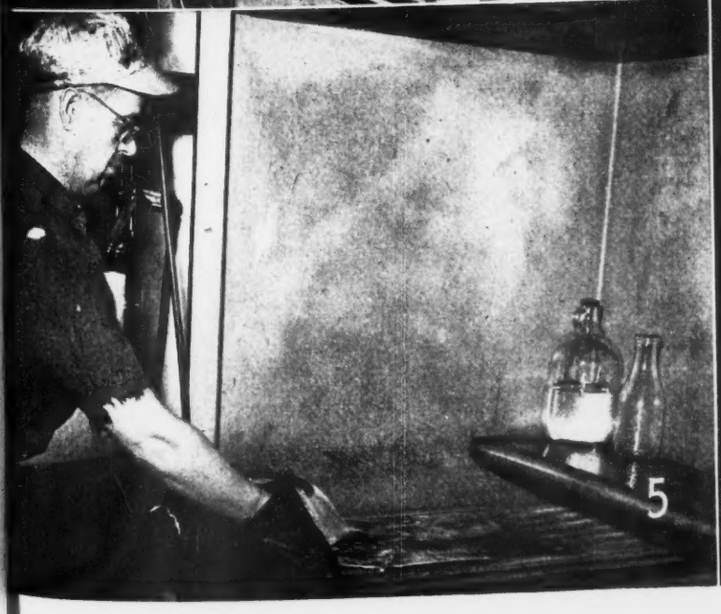

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Linotype Spaceband Box—

What To Do When Trouble Occurs

By WILLIAM BUTLER

WHEN trouble occurs with delivery of spacebands on a Linotype, or it appears that the box is in need of periodical over-hauling, it is a good idea to look over the spacebands first. Like the parts in the box, spacebands need repair occasionally. If the spacebands are not in good condition, naturally the mechanism in the box cannot function properly. The bottom edge of the spaceband sleeve lugs, becomes rounded with use. The pawl points contact the lugs in lifting the spaceband from the inclined rails. The pawl points can slide off the sleeve lugs if the lugs are rounded excessively. Rounded lug corners are not desirable, so file only enough flat surface on the lugs to insure the lifting of the spaceband by the pawls over the points of the inclined rails.

Spacebands should be approximately the same length when suspended by their lugs. If any of the lugs are worn enough to allow the long wedge to hang lower than the others, a new or repaired spaceband is indicated. One or more long wedges in a set will cause plenty of trouble for the operator because when the box pawls lift it over the top rails, the bottom end of the long wedge is often still behind the spaceband chute plate and only the sleeve is released. This causes all following bands to fail until the spaceband causing the trouble, along with those it has blocked, are removed by hand.

A spaceband with a sleeve that binds at its top position acts like a short spaceband when the head does not slide freely the length of the long wedge. When this spaceband is presented to the box lifting pawls, the bottom of the long wedge swings over the chute plate while the lugs are still against the inclined rail stops. This means the spacebands following in the box sometimes slide over the chute plate also, and jam up in box chute.

With the spaceband box mounted in normal position on the machine and with the assembler running, depress the box pawls by pushing down the spaceband box pawl lever. Allow the lever to come up slowly and watch the first spaceband in the box. As the spaceband rises, the bottom of the spaceband should swing clear of the box chute plate before the sleeve lugs have been lifted high enough to clear the hooks on the inclined rails. After the bottom of the long wedge has swung clear of the chute plate, the sleeve lugs should be raised high enough to clear the inclined rail hooks.

Try all the spacebands, by depressing the pawl lever and releasing slowly upward and if any spacebands release at the top before the bottom of the long wedge swings clear, that spaceband is too short to run with the others, or the sleeve is binding and has not reached its correct position at the top extremity of the long wedge to give the spaceband its extreme length.

This binding of the sleeve is often caused by the thin end of the long wedge being bent or burred.

When the spacebands have been looked over and the defective ones have been repaired, replaced or removed, check the inclined spaceband box rails on the surface which supports the spacebands by their sleeve lugs. If these surfaces show nicks or roughness, smooth them with an oilstone. When the box rails have been in use for a number of years, the spacebands in their movement down the rails to the stop at the lower end, cause nicks to wear in the rail surface at the stopping point under each spaceband's lugs. The slight jar transmitted to all the spacebands when one is released from the box and all the others slide down to the stop to replace it, cause these notches in the rails. If the notches are too deep, the rails should be replaced.

Then check the spaceband box pawl levers for play between the pawl levers and the hinge pin. They should be solid on the hinge pin.

The spaceband box pawls should be free in their position. The pawl springs should be set with enough tension to hold the pawls in the bottom of the slot in which they work. Pull the pawl against the spring pressure and see that it snaps back in any position of the pawl from extreme top to extreme bottom of its stroke.

When the pawl lever is depressed and raised slowly by hand see that the points of the pawls extend far enough under the sleeve lugs (while the spacebands are resting in the box with the lugs of the first spaceband against the rail hooks) to lift the spaceband, but not so far under as to lift two spacebands.

Even with new pawls they will sometimes extend far enough under the lugs to lift two spacebands and the pawls must be oil-stoned or ground to correct this. The original form of the pawl must be maintained.

When the pawl points are the correct distance under the spaceband (preferably not more than $\frac{1}{32}$ in.) inside the stopping surface of the rail hooks, test the pawls for even height. Allow the pawls to come up slowly by hand and watch to see that they are the same height by stopping the upward movement of the pawl lever. When one pawl is even with the top surface of the spaceband box rail, the other pawl should be even with its rail also. A slight difference can be corrected with an oil stone.

The pawls may be the same length when held side by side, out of the box; but when in the box one may be higher than the other. Hence, the necessity for sometimes correcting the difference in length.

In the spaceband box chute plate long is a rectangular opening about ½ in. by 3 in. The spacebands can strike the bottom ½ in. edge of this opening on their way down to the assembler and if this edge is beveled, this interference is minimized.

The slotted tongue at the bottom of the box chute should be bent only enough to the left to cause the spacebands to strike slightly forward of center of the star wheel.

The bottom of the chute plate short should be bent to just allow clearance for the particular thickness of spaceband being used.

Hold Conference

The Southwestern Graphic Arts Conference jointly sponsored by the Printing Industry of Wichita and the Tri-States Printers Association will be held at the Hotel Lassen in Wichita, Kansas on May 8, 9 and 10.

The theme of the conference will be "Forging Tomorrow's Markets". Arthur A. Horrocks, Counsel of Public Relations Dept. of Goodyear Tire & Rubber Co. will speak on *Graphic Arts and the National Economy*. Clyde K. Murphy, vice president of Blackwell-Wielandy Co., will discuss *National, Regional and Local Association's Place in, the Graphic Arts Industry*. Rev. Leo. C. Brown, director of the Labor School and director of the St. Louis University Institute of Social Sciences will speak on *Labor Relations*. Technical clinics will be conducted on Saturday afternoon, May 10. President W. H. Griffin of the International Association of Printing House Craftsmen will assist in the organization of these clinics.

Reservations should be made through Printing Industry of Wichita, 149 N. Topeka Ave., Wichita 2, Kan.

Hoe Dividend

The board of directors of R. Hoe & Co., Inc., declared a dividend of $3 per share out of earned surplus as of Sept. 30, 1946, payable March 7, 1947 to holders of Class A stock of record at the close of business February 27, 1947. The board also declared out of surplus a dividend on the Class A stock at the rate of $1 per share for the quarterly period commencing to accrue October 15, 1946.

"This $1 dividend," Joseph L. Auer, Hoe's president, said, "will be payable upon the shares of Class A stock to be issued upon the effectiveness of the consolidation of Pittsburgh Lithograph Press Corp., a wholly-owned subsidiary, into R. Hoe & Co., Inc., and will be paid at the time of each delivery of new certificates for Class A stock to the persons in whose names such new certificates are issued." In making these announcements, Mr. Auer explained that the consolidation and the dividend declarations place the Class "A" stock on a regular current quarterly dividend basis.

NAPL Convention Dates

The 15th Annual Convention of the National Association of Photo-Lithographers has been scheduled for October 22 through 25, 1947 at the Hotel Book-Cadillac in Detroit, Mich.

Walter E. Soderstrom, executive secretary of the NAPL, states that some of the talks at the convention sessions will deal with labor, costs, equipment, production, and personnel.

The convention will be held for four days instead of three days as in previous years to afford more time for the program and for exhibitors to display and advertise their products.

Radar Techniques Useful

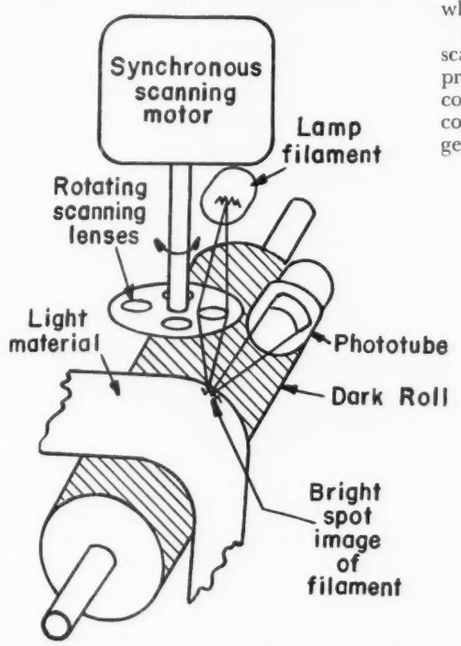
In Industrial Field, Says G-E Engineer

ALTHOUGH industrial electronic engineers and communication engineers have long felt that their circuits and techniques had little in common, the development of such special communication fields as radar and loran has brought about many new circuits which are useful in the industrial field. So said General Electric Engineer W. D. Cockrell in a paper entitled *Radar Techniques In An Industrial Control*, presented before the Mid-Winter Convention of the AIEE in New York.

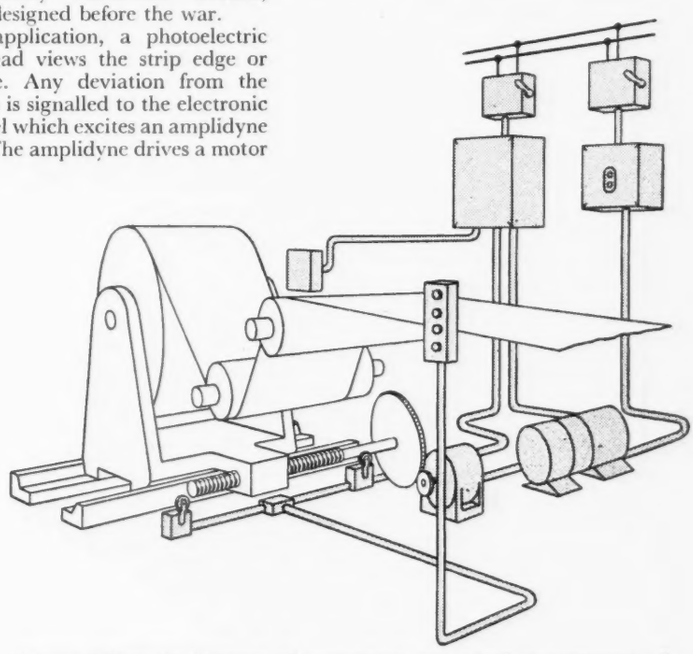
Square-wave circuits, clippers, blocking, timing, and counting circuits, normally associated with radar, have an important place in industrial electronic circuits, Mr. Cockrell continued. To illustrate this he described a photoelectric side-register control, used so widely in the paper and printing industry and employing many "radar-like" circuits, which was designed before the war.

In this application, a photoelectric scanning head views the strip edge or printed line. Any deviation from the correct path is signalled to the electronic control panel which excites an amplidyne generator. The amplidyne drives a motor which moves the feed roll sidewise to correct the position or "register" of the strip

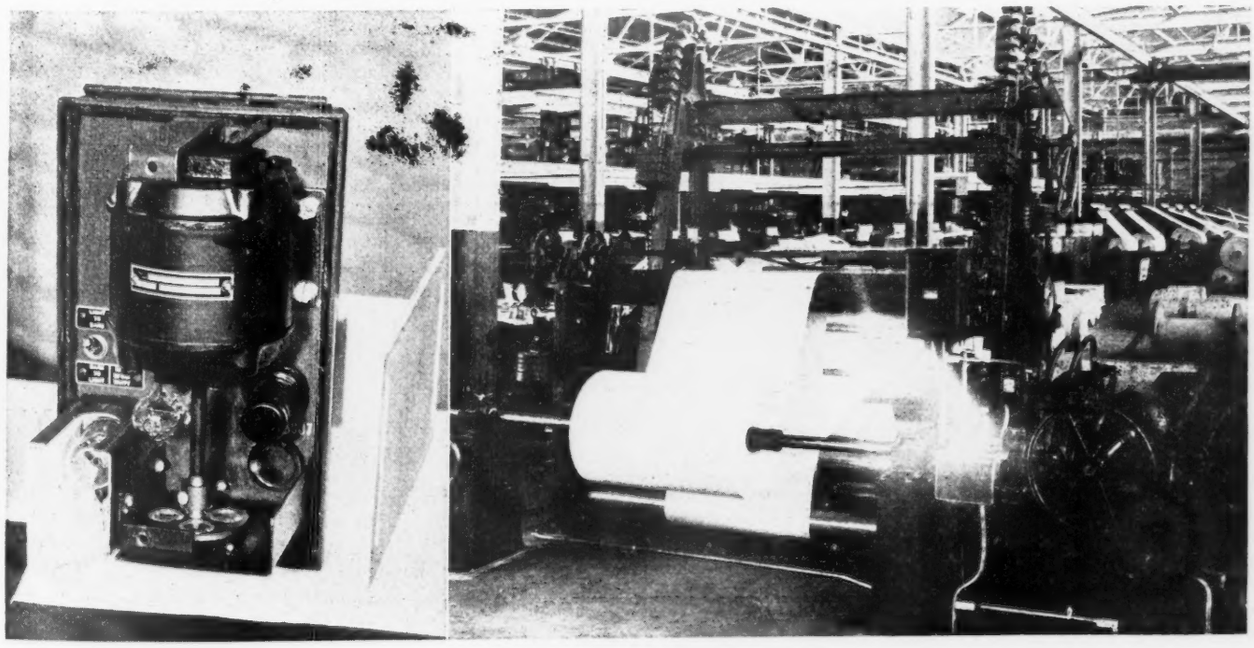
By describing in detail the various electronic circuits in this industrial application, Mr. Cockrell showed that the elementary electronic tube circuits familiar to the radar man can be combined and arranged to serve many functional requirements. He concluded by saying that in industrial electronics the application engineer gets the most satisfactory results by breaking a problem down to its basic functions so that each tube circuit has but one job to do. These basic elements may then be combined to obtain the final results.



Above: Diagrammatic explanation of scanning motor mechanism shown in halftone illustration immediately below.



Above: Schematic diagram of component parts and arrangement of photo-electric side register control as used on paper winding machine shown in halftone illustration below.



Variety Marks Discussions at Texas Mechanical Conference

THE Southern Newspaper Mechanical Conference (Western Division) in Galveston February 17 and 18 was attended by 250 representatives of newspapers in Texas, Oklahoma, Louisiana and Arkansas as well as representatives of supply and equipment companies. The new chairman of the conference elected at the meeting is W. F. Thompson, mechanical superintendent of the Austin (Tex.) *American-Statesman*. J. A. Risher, composing room superintendent of the Oklahoma City (Okla.) *Oklahoma* and *Times*, was named vice chairman.

Speeches and discussions at the sessions centered around more extensive use of color in newspapers highlighted by talks by John P. Keating, vice president and production manager of the Milwaukee (Wis.) *Journal* and R. A. Travis of Color Production Service of New York.

Team Work

Cooperation of personnel in all departments of a newspaper was stressed by both speakers as being necessary for the production of creditable color work. In commenting on this, Keating said:

"The printing business positively is not a one-man job, whether it be black and white or color. Too many processes are involved to give all the credit to any one department. This is especially true of color printing in newspapers. In color printing, for instance, your printed result will be only just as good as your material. The photographer, the artist, the engraver, the stereotyper, the pressman, all must cooperate, not because it is a job to do but because each and everyone is anxious to uphold his particular branch of the work, and does so because he wants to be able to feel proud of the completed job. In this respect, the Milwaukee *Journal* is very fortunate.

Keating continued by pointing out that good inks should be used—not necessarily high-priced ink but clean, strong colors.

"In printing color in newspapers many discouraging factors are encountered, "Keating went on to say. "For instance, the poor quality of newsprint, lack of equipment, among many others. However, at this stage of color printing, you are not expected to produce a *Ladies' Home Journal* or other high-class job. But, take my word for it, this business is going to change, just as magazine printing has changed radically in its appearance because of color. Many hands are reaching out for the advertising dollar. The newest threat seems to be colored television. If the newspapers of this country can reproduce merchandise in its true color, the advantage is bound to be with us."

The necessity for cooperation between all departments was also heavily stressed by Travis who declared that tremendous strides have been made in comic section printing through the cooperation of the various departments of a newspaper and that the improvement in color printing has resulted in the millions of dollars of extra revenue for newspapers.

Travis stated that good engraving will be vital in achieving good results in r.o.p. color printing.

Retouching Photographs

Arch Dixon, foreman of the engraving department of the *Oklahoman* and *Times*, in a talk on picture reproduction pointed out the necessity for proper retouching of photographs to achieve maximum printing results. Declaring that "the art department is the great equalizer between the photographers and the engravers," Dixon described how the retoucher must build up tones on the overexposed, washed-out prints and lighten faces and detail on the under-exposed prints.

"This enables the engraver to standardize more or less exposures and expedites his work because he can group several pictures together on his copy board," Dixon added.

In outlining the methods used by the *Oklahoman* and *Times* to achieve good printing results on cuts, Dixon said "We have no special practices in the engraving department, no treatment of cuts that is not known to all first-class engravers. Our preference for a negative is one fairly high, with all the detail we can cram into it. The dead blacks we let come solid. The result is a contrasty engraving with a tone range of solid black to a minute highlight dot. All our halftones are etched three bites and given an overall re-etch then, if needed, spot etched with an acid gun. Full page society and feature pages that are to be printed direct on 75 line screen are staged and re-etched. Finished cuts are taken direct to the composing room where they are placed in the pages on base of Monotype giant caster material by the printers."

L. P. Thompson, art director of the *Oklahoman* and *Times*, was quoted as saying the judgment and choice of the editors is the first step in good printing and "if they have a burning desire to see their efforts well printed then the rest of us in the mechanical departments will have a head start to getting and maintaining good printed pictures."

Discusses Newsprint Quality

The question of newsprint quality was discussed by D. J. MacLaurin, supervisor of control for the Powell River Co. The speaker from Powell River said the question of quality in newsprint was important in overcoming the problems of web breaks, strike and show-through, and grayness in solids encountered by the publisher.

MacLaurin said further that "it would seem that improved uniformity of the sheet with respect to all characteristics is a big contribution the papermaker can hope to make toward quality printing. Uniformity both across and along the web, within each roll, and from roll to roll."

Efforts are being made at Powell River to achieve this uniformity, MacLaurin pointed out in describing a new paper machine for which a contract has been let by Powell River. "Requirements laid down to the designing engineer emphasize the uniform delivery of the stock to the wire, both across the web at any one time, and from time to time." MacLaurin said.

Teletypesetter Progress

Floyd Foster of the Teletypesetter Corp. of Chicago presented a discussion on the application of the Teletypesetter to newspaper composition and stated that there are now 79 users of the device in 29 states. The Teletypesetter speaker described in some detail operation of the new multiface system developed to permit the use of standard fonts of mats.

Variety of Questions

A variety of questions were discussed by delegates to the meeting. A majority of the questions were designed to draw answers from representatives of all departments and discussions were led by George Woodman, mechanical superintendent of the Fort Worth (Tex.) *Star-Telegram*, composing room; H. H. Harrington, Enid (Okla.) *News-Eagle*, machinist; Earl White, Tulsa (Okla.) *World-Tribune* pressroom foreman, pressroom; J. Homer Blackmon, stereotype foreman of the Dallas (Tex.) *Times Herald*, stereotyping; and Frank Bavoux, engraving room foreman of the Galveston (Tex.) *News-Tribune*, engraving.

Minor Developments

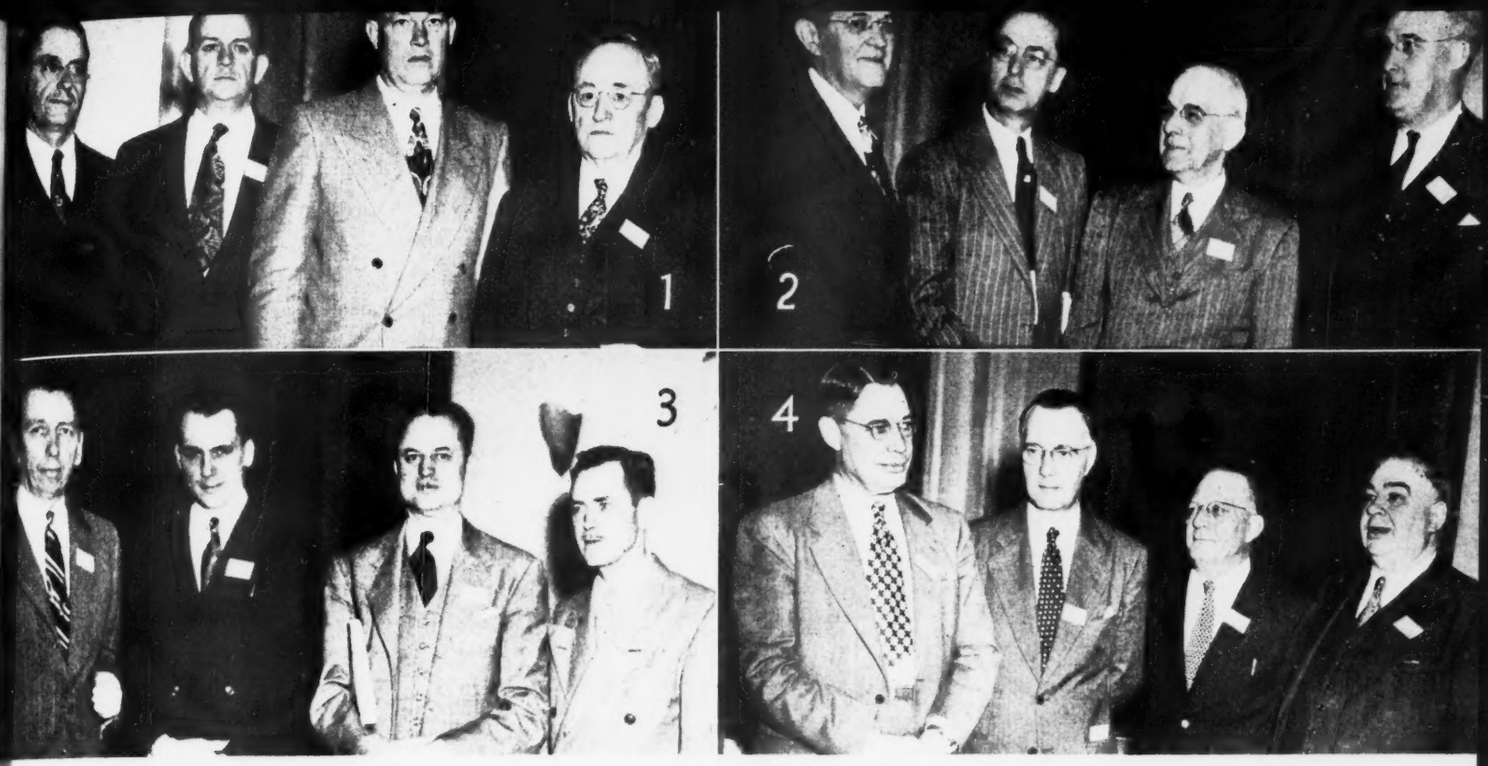
At the beginning of each discussion, topic leaders asked for reports on "gadgets" and interesting items reported included the idea of nickel-plating standing heads and ads advanced by Risher, who said standing heads so processed would stand up under stereotyping for three months before re-setting as compared to a week without nickel-plating.

George McCoppin of the Texarkana (Ark.-Tex.) *Gazette-Daily News* described a "rear view" mirror set up behind the mold disk on a line-casting machine. The mirror enables the operator to detect the accumulation of metal behind the mold without breaking the machine down.

White of Tulsa told of the system used in Tulsa for running "dinky" rolls on a decker press with extension blocks. The rolls run free on the spindles and tension is regulated by canvas straps hung with weights.

Halftone Heights

One of the principal topics discussed was the right height for printing halftones and a variety of opinions were discussed. J. C. Sharpe, pressroom foreman of the Marshall (Tex.) *News Messenger*, said best results were obtained in Mar-



Mechanical Executives and Manufacturer Representatives Snapped at the Galveston SNPA (Western Div.) Newspaper Mechanical Conference, February 17-18.

1—(Left to right)—Harry Huston, stereotype foreman, Fort Worth (Tex.) *Press;* Wallis A. Dupuy, Jr., pressroom foreman, Baton Rouge (La.) *State-Times* and *Advocate* and newly elected member of conference executive committee; L. W. Culver, engraving foreman, Fort Worth (Tex.) *Star-Telegram* and general chairman of conference; John P. Keating, vice president and production manager, Milwaukee *Journal* and program speaker.

2—Leven T. Deputy, mechanical superintendent, Dallas *Morning News;* W. F. Thompson, mechanical superintendent Austin *American-Statesman* and the conference's new chairman; W. J. Dowell, machinist, Tulsa *World-Tribune;* Ed Yagow, Dallas, Goss Printing Press Co.

3—C. W. Tabb, Southern Newspaper Publishers Association, Dallas, conference secretary; George N. Guthrie, pressroom foreman, Little Rock (Ark.) *Gazette;* Carl Denman, Manager, Huber Ink Co., Chicago; Joe Wooten, mechanical superintendent, Denton (Tex.) *Record-Chronicle.*

4—George Woodman, mechanical superintendent, Fort Worth *Star-Telegram;* H. O. Albin, Mergenthaler Linotype Co., Brooklyn; Houston Awalt, mechanical superintendent, San Antonio *Express-Evening News;* and R. A. Torrance, pressroom foreman, Shreveport (La.) *Times.*

(All above pictures are by Amon Carter, Jr., Fort Worth Star-Telegram)

shall printing from cuts which were 0.920 in. Wilson Green of Dallas, a commercial engraver who makes cuts for newspaper use, said 0.922 in. was the maximum height to which a cut should be underlaid.

Experiments performed in San Antonio were discussed by Houston Awalt, mechanical superintendent of the San Antonio (Tex.) *Express-Evening News.* Awalt said six identical halftones were molded in one page with two 0.918 in., two 0.921 in. and two 0.924 in. high. Best printing results were obtained from the cuts which were 0.921 in., Awalt said.

Solid Slugs

Much of the discussion in the machinist session centered around the elimination of air pockets in large slugs and Harrington suggested that machines should be run slower, with wide open vents and a slow plunger drop.

In the discussion of stereotype topics, Blackmon reported that a boiler cleaning compound with the trade name Skasol was used successfully at the *Times Herald* for removing scale from the water jackets of Autoplates.

Delegates to the conference were guests of the supply men at a banquet Monday night. William R. Sefton of the Howard Flint Ink Co. of Houston was chairman of arrangements for the affair.

Officers Elected

Wallis A. Dupuy, Jr., pressroom foreman of the Baton Rouge (La.) *State Times* and *Advocate* was elected to the executive committee and other executive committeemen were returned to their posts. They include R. J. Crawford, stereotype foreman of the Shreveport (La.) *Times*; G. N. Guthrie, pressroom foreman, Little Rock (Ark.) *Gazette*; C. C. Washburn, mechanical superintendent, Galveston (Tex.) *News-Tribune*; L. W. Culver, engraving foreman, Fort Worth (Tex.) *Star-Telegram*; Thompson; Risher; L. T. Deputy, mechanical superintendent, Dallas (Tex.) *Morning News*; and W. J. Dowell, head machinist, Tulsa (Okla.) *World-Tribune.* Conference secretary is C. W. Tabb, manager of the Southern Newspaper Publishers Association Dallas office.

Culver was chairman of the conference which was conceded by those in attendance to be one of the most successful ever held.

Topic leaders for the next conference will be: Composing room, Tommie Darst, San Antonio (Tex.) *Light*; Pressroom, Clyde Taber, Dallas (Tex.) *Times Herald*; Stereotype, Emil Sumbera, Austin (Tex.) *American-Statesman*; Machinist, V. W. Lamoreux, Shreveport (La.) *Times*; and engraving, H. W. Hartman, Houston (Tex.) *Post.*

Meeting place for the next conference will be set at a meeting of the executive committee later in the year.

Bulletin Issued

THE Craftsman Line-up Table Corp. has issued a 12-page illustrated folder on the improved indirectly illuminated line-up and register table for checking register and line-up at the imposing stone on catalog, magazine, color, label and carton forms. Detail illustrations show the sheet guides and grippers, ink liners and straightedge control. Copy of the bulletin will be sent upon request to *Printing Equipment Engineer.*

NAPL Booklet

Behold the Power of Unity is the title of a 12-page booklet published by the National Association of Photo - Lithographers. In the booklet are described the advantages of association membership. The association now has a membership of over 250. Quoting from the booklet, "Sharing our experiences with others, and receiving in turn information which others have learned the hard way, is just part of what can be gained by sticking together." Other services given to members is a cost accounting system; and literature on labor, labor negotiations, service standards and confidential bulletins on timely subjects. Copies of the booklet are available from the National Association of Photo - Lithographers, 1776 Broadway, New York 19, N. Y.

Canadian Linotype, Ltd., announces that J. P. Lemyre of Montreal has succeeded Armand Boucher as Linotype production engineer in the province of Quebec. Mr. Boucher has gone into business for himself. Mr. Lemyre has been active in the Graphic Arts in Canada some 23 years. Recently he was with *Le Petit Journal* of Montreal. He is a member of the International Typographical Union and of the Montreal Typographical Club.

Conference Dates

(with organization names and principal officers.)

ANPA Mechanical Conference—Palmer House, Chicago, Ill., June 9, 10, 11, 1947. Worth Coutney, Chairman; Walter E. Wines, Manager, ANPA Mechanical Dept., 370 Lexington Ave., New York 17, N. Y.

Great Lakes Newspaper Mechanical Conference—Pantlind Hotel, Grand Rapids, Mich., Oct. 26, 27, 28. President Deo A. Padgett, Composing Room Supt., Cleveland *Plain Dealer;* Secretary Al. P. Oberg, Composing Room Supt., Flint (Mich.) *Journal.*

International Association of Printing House Craftsmen — Grand Union Hotel, Saratoga Springs, N. Y., Aug. 31, Sept. 1, 2, 3. Wm. H. Griffin, President, Griffin Bros., 447 Sansome St., San Francisco, Calif.; Secretary, Pearl E. Oldt, 702 Griswold St., S. E., Grand Rapids 2, Mich.

International Trade Composition Association — Book - Cadillac Hotel, Detroit, Mich., Aug. 28, 29, 30. Frank M. Sherman, Executive-Secretary, 1015 Chestnut St., Philadelphia 7, Pa.

Mid-Western Trade Composition Conference — Statler Hotel, St. Louis, Mo. April 12.

National Association of Photo Lithographers — Book - Cadillac Hotel, Detroit, Mich., Oct. 22, 23, 24 and 25. Walter Soderstrom, Executive Secretary, 1776 Broadway, New York 19, N. Y.

New England Mechanical Conference—Hotel Statler, Boston, Mass., Nov. 8 and 9, 1947. President, Wm. F. Madden, Composing Room Supt., Worcester, (Mass.) *Telegram-Gazette.* Walter C. Crighton, Secretary-Treasurer, New London (Conn.) *Day.*

Northwest Mechanical Conference — Vernon Eck, Secretary, 3725 48th Ave. S., Minneapolis 6, Minn.

Pacific Newspaper Mechanical Conference—1947 meeting at Hotel Biltmore, Los Angeles, Calif. May 10 and 11, 1947. President Edw. Sparks, Pressroom Supt., Los Angeles *Examiner;* Secretary, Fred J. Moyer, *Daily News,* Los Angeles, Calif.

PNPA 1947 Mechanical Conference—Penn-Harris Hotel, Harrisburg, April 11-12. William N. Hardy, Manager, PNPA., 209-213 Telegraph Bldg., Harrisburg, Penna., Nicholas M. Fellman, Chester, (Pa.) *Times,* chairman, PNPA Mechanical Committee.

Printing Industry of America — French Lick Springs Hotel, French Lick, Ind. Sept. 22, 23, 24 and 25. James R. Brackett, General Manager, 719 Fifteenth St., N. W., Washington, D. C.

Southeastern Mailers Association—Ashville, N. C. June 9 and 10, 1947. President Bruce Owens, Greensville (S.C.) *News;* Secretary-Treasurer Maxie H. Thompson, Spartanburg (S.C.) *Herald-Journal.* Open to mailers and those interested in newspaper mechanical production departments.

Southern New England and Boston Trade Typesetting Association—Copley-Plaza Hotel, Boston, Mass., May 10.

Southwestern Graphic Arts Conference—Hotel Lassen, Wichita, Kan. May 8, 9 and 10. Reservations made through Printing Industry of Wichita, 149 N. Topeka Ave., Wichita 2, Kan.

SNPA (Eastern Div.) Mechanical Conference—Walter C. Johnson, Manager SNPA, P. O. Box 1569, Chattanooga 1, Tenn. Chairman Executive Committee, I. J. Gardner, jr., Composing Room Supt., Chattanooga (Tenn.) *Times.*

SNPA (Western Division) Mechanical Conference — Secretary, C. W. Tabb, 723 Texas Bank Bldg., Dallas, Tex.

Announces New Press Line

A new line of multi-color rotogravure and rotary letterpresses for the package, label and wrapper printing trades was

W. B. Thiele, Manager of Graphic Arts Sales for Sperry Corporation.

announced recently by W. B. Thiele, Manager of Graphic Arts Sales, Sperry Corporation, Long Island City, N. Y. Designed by Arthur P. Bamford and a staff of press engineers, the new press line is intended for multi-color printing for many products. Special design attention has been given to the printing of foil, cellophane and other modern packaging materials.

The introduction of this new press line represents another step by the Sperry Corporation into the packaging field. Present products include E. G. Staude paper board converting equipment and Wright's automatic wrapping and filling machines.

Of interest to the boxmaker is a new rotary cutting and creasing unit which can be used in conjunction with the printer. According to manufacturers, this makes possible multi-color printing, cutting and creasing, and stripping at high speeds in a single straight-line operation.

Linotype Fluorescent Lamp

THE Linotype Co. announces a fluorescent Linolamp that gives the keyboard operator the right amount of light where he needs it most. The Linolamp directs 75 foot-candles of light on the assembling elevator, from 25 to 30 foot-candles on the copy, and a little less on the keyboard. Stroboscopic effects inherent in single-tube fluorescent lamps are avoided by the use of two 9 in. 6-watt tubes in the Linolamp. The Linolamp (available for shipment soon) operates on 110 volts, 60 cy., a.c. *Printing Equipment Engineer* will be glad to forward additional information upon request.

Future Planning

(From address delivered by Robert W. Dickerson, Cleveland architect and engineer, before 1946 Montreal Craftsmen's convention.)

No discussion of planning is adequate without reference to provision for growth and expansion. It is not always easy to anticipate the amount of growth for which to provide. Changes in the community, beyond any possible pre-vision, can upset a well-founded plan. Changes in product and many, many other factors can force unexpected expansion. But, the fact remains that no program should fail to include the best estimates that can be made as to the growth and expansion of the business. Working space areas should be kept as large as possible and free from internal features that hamper space adjustment. Interior bearing walls should be avoided wherever possible. Stairs, toilet rooms and similar features should, to the greatest extent possible, be placed on the perimeter and not on the interior of the plant. Standard unit partitions should be used in most locations where space must be divided. They are almost 100% salvageable, can be taken down and erected over-night and meet almost any requirement from factory space to executive offices.

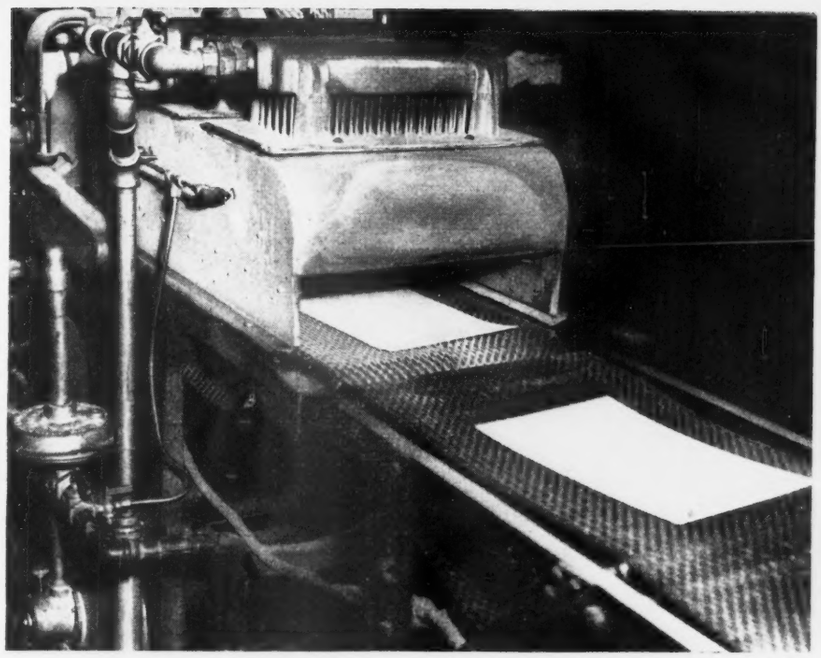
Hold Open House

Persons in the printing business have been invited to an open house at the American Type Founders branch offices, in Buffalo, March 10 to 12; and the Cincinnati office, March 24 and 25. Edwin B. Hundley was recently appointed manager of the Buffalo office. He was formerly a resident salesman in Louisville and Indianapolis. The latest models of printing equipment and supplies will be shown including the new Little Giant press.

Edwin B. Hundley, ATF's Buffalo branch manager.

Cincinnati branch manager for ATF, R. G. Marquardt

Mechanical and Production Executives are invited to send information to *Printing Equipment Engineer* about mechanical and production aids that will be of help to fellow executives.



View of one of the battery of special gas ovens or tunnels used in plant of Boston's Relief Printing Corp. Printed matter from the press passes under an automatic hopper from which a special powder is sprinkled over the wet ink. Next a suction device removes the loose powder from the printed piece. The metal chain conveyor belt then passes the printed pieces under a gas-fired burner plate. Operating at 1600 deg. F., heat is radiated directly to the printed pieces. In the 3 sec. it takes the printed pieces to pass under the burner, a chemical change takes place in the ink and powder which is fused to form a permanent raised surface of the printed image.

Special Gas Oven Used in Raised Letter Printing

AN interesting application of gas heat is used by the Relief Printing Corp., Boston, Mass., for the printing process in which that company specializes. This relief process produces a raised or relief printed surface which resembles printing from engraved steel and copper plates or intaglio printing. The specialty of this company is business cards, which are printed for many nationally known concerns such as letter heads, bill heads, invitations, and greeting cards. The printing is done in the conventional manner on automatic flatbed presses. There the standard letterpress printing process stops and the relief process starts.

From the delivery end of the presses, the pieces which have been printed in a special ink, are picked up on a metal chain conveyor belt adjusted to the production speed of the press. The printed pieces on the conveyor first pass under an automatic hopper from which a special powder is sprinkled on the surface of the printed piece from the press. Next a suction device removes all the powder except that which has adhered to the wet ink and returns it to the hopper. The printed pieces with the powder on the wet ink then pass under a gas-fired burner. This burner is composed of 75 miniature tunnel burners which fire downward through a ceramic plate into a shallow rectangular box or pan which becomes highly radiant in operation. The perforated bottom surface of this box, operating at about 1600 deg. F. radiates heat directly to the printed material on the conveyor about 6 in. beneath it. In the 3 sec. it takes the printed pieces to pass under the gas burner, a chemical change takes place in the ink and powder which forms a permanent raised surface of the printed image. The resulting surface can be had in either dull or glossy finish depending on the type of ink used. A short run of the conveyor takes the printed pieces through a current of air which cools the printed pieces which then stacked thoroughly dry at the discharge end.

As this relief process can be executed with the same speed as press production due to the efficient application of gas heat, there is no loss of time, and the production results equal that of any other job of printing.

Printers Entertained

Harry W. Detlef, manager of the American Type Founders Sales Corporation branch in Minneapolis, entertained 400 printers at breakfast. Mr. Detlef invited everyone in attendance at the ANPA's Northwest Mechanical Conference to breakfast during the February 15-17 meeting at the Nicollet Hotel, Minneapolis, Minn.

EXECUTIVE ¶s

Sun Chemical Corp. announced that F. H. Farnsworth has been appointed president of the General Printing Ink

General Printing Ink's President, F. H. Farnsworth.

Div. Mr. Farnsworth will be assisted by divisional vice presidents, Harold A. Kernell and Walter Huber. Mr. Kernell will have charge of sales operations and policy of the ink divisions in the midwest,

Harold A. Kernell, Vice President of General Printing Ink.

and Mr. Huber will have similar responsibilities in the east. Mr. Farnsworth has devoted his entire career to the printing ink industry, starting with Sigmund Ullman in 1901. Mr. Kernell has just completed 25 years with the American Printing Ink Div. where he started in 1922 as assistant to the president. John F. Devine has been made assistant to President Albin K. Schoepf of Sun Chemical Corp. Mr. Devine is on the board of directors of the Lithographic Technical Foundation and the National Association of Printing Ink Makers.

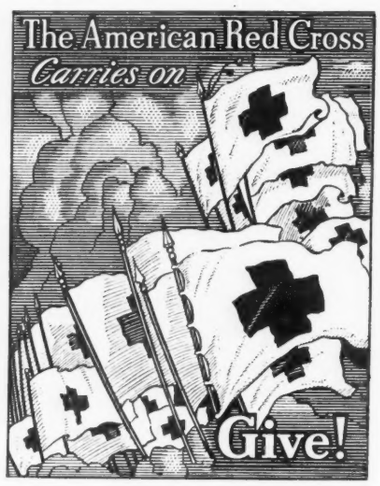
Dudley L. Parsons, president of Appleton, Parsons & Co. Inc., New York, N. Y., announced recently that George Salomon has been appointed typographic designer. He will have special duties in the creation and production supervision of advertising books, folders, and other printed public relations material.

The New York *Herald Tribune* announced the appointment of James H. McGowan as production manager. Mr. McGowan's career in New York includes service with *PM* and as assistant mechanical superintendent on the *Daily News*. In his work on the *Herald Tribune* he heads up all mechanical production including, composing, pressroom, stereotyping and publication-wait order. During the war he served overseas with *Stars and Stripes* as production man. A. H. Burns, mechanical superintendent of the *Herald Tribune*, continues in the same capacity devoting special attention to the installation of new presses and other equipment.

Stuart E. Arnett, sales manager of the Printing Machinery Division of the Electric Boat Co., announces the appointment of Herbert Kaufman as advertising and sales promotion consultant. He also announces that the Gotham Advertising Co., Electric Boat Co.'s advertising agency, will act as the agency for the Printing Machinery Division. Mr. Kaufman is a member of the Industrial Advertising Association of New York, the Printing Supply Salesmen's Guild, the Sales Executives Club and other industrial groups.

Oscar C. Roesen, president of Wood Newspaper Machinery Corp., recently announced various executive changes in the organization. J. A. Isbell, former vice president in charge of manufacture, is consulting engineer and will remain a director of the corporation. R. G. Griffoul is vice president in charge of manufacturing and engineering. P. L. Tollison became vice president in charge of research and development. J. P. Catlin, vice president and treasurer, will retire in July. Kirk McFarlin was appointed chief financial officer of the corporation. I. Tornberg continues in the capacity of vice president and sales manager.

Harry V. Tait of Linotype's Pacific Coast agency, rounded out 25 years with that company. At present he covers the city of San Francisco and the San Francisco and Monterey peninsulas. He is a Legionnaire, a Printing House Craftsman and an Elk.



George W. Kennell, southwestern representative of the Certified Dry Mat Corp., died in his hotel room in Galves-

George W. Kennell of Certified Dry Mat, passed away in Texas recently.

ton, Tex. recently. Before joining the Certified Dry Mat Corp. in 1928, Mr. Kennell had been stereotype foreman of the Cleveland (O.) *Plain Dealer*. For the past two years his home and business headquarters have been in Albuquerque, N. M.

Louis Calder, President of Perkins-Goodwin Co., celebrated his 50th anniversary with that company recently. In honor of the occasion a group of friends presented him with an imposing hand-tooled book bound in leather. This book contained letters from 30 friends and paid tribute to his half century of service. The book, lettered in gold, was entitled *The First 50 Years—Lou Calder*.

D. Gerald Cloud has succeeded Hubert Royce as Linotype production engineer in western Washington. Mr.

D. Gerald Cloud appointed Linotype's production engineer in western Washington.

Royce resigned because of ill health. Mr. Cloud was formerly in the sales office of the San Francisco agency. Most of his work as printer, publisher and manager has been within the state of Washington, where he published the *Elma Chronicle*, was superintendent of the University Publishing Co. and manager of the Pacific Typesetting Co. of Seattle.

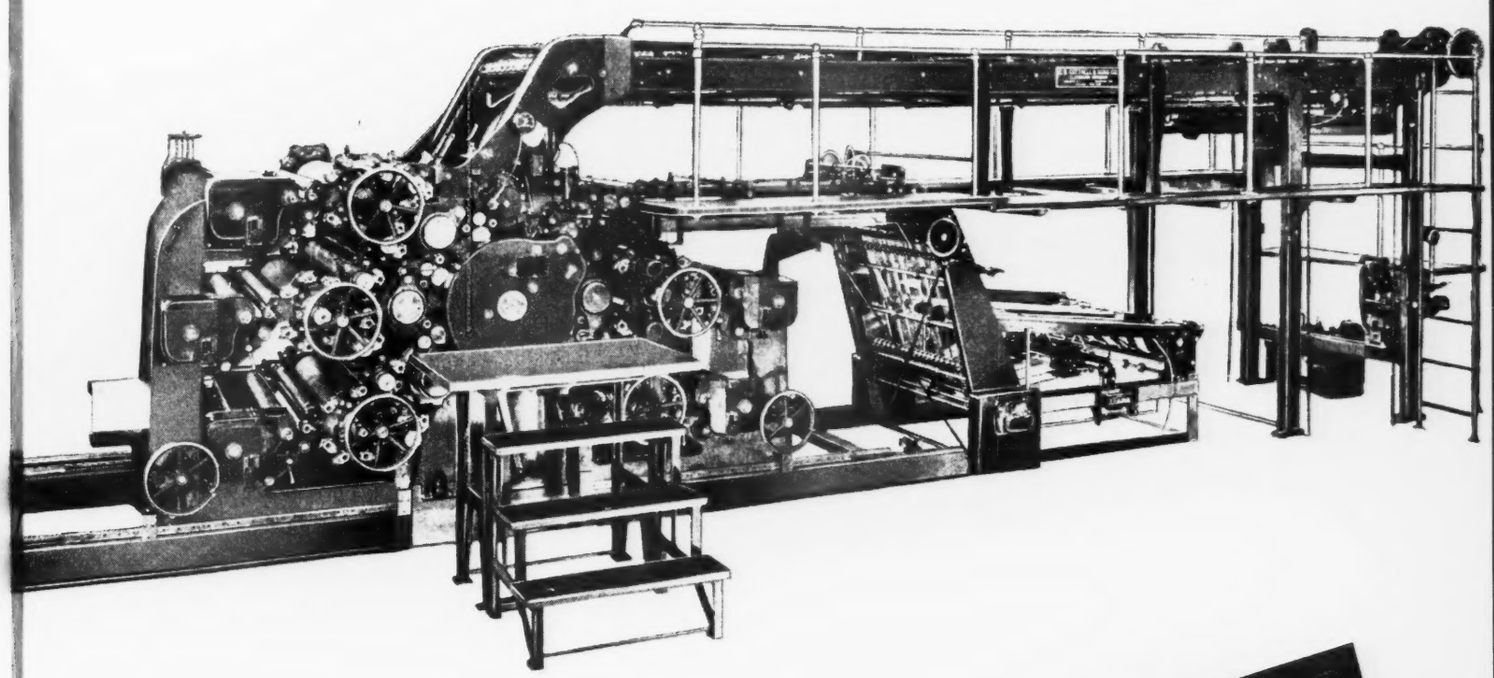
Sig. Berger, formerly with Geo. H. Morrill Division of General Printing Ink Corp., has joined the Milton Paper Co., Inc. as manager of its credit department. He is a member of the Club of Printing House Craftsmen of New York.

Charles M. Andrews has been appointed a vice president of the E. P. Lawson Co. He has been associated with the company for 17 years.

for QUALITY COLOR PRINTING

This outstanding five-color sheet fed rotary press is designed by Cottrell to print up to, and in some cases even exceed, 5500 sheets per hour in five colors with a maximum net production and no sacrifice in quality.

Its production and operation more than meet the exacting requirements of today's artistic color printing.



C. B. COTTRELL & SONS CO.
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Cottrell

92 YEARS OF GROWING WITH THE PRINTING INDUSTRY

Better Supervision

in the newspaper composing room — Desirable practices outlined

By C. FRANK MANN*

**Composing Room Superintendent, Louisville (Ky.) Courier-Journal and Times. Abstract of address delivered before Ft. Worth (Tex.) meeting, Western Div. SNPA Mechanical Conference.*

PERHAPS there can be no set formula for a good supervisor, but here are some of the requirements. A man is a good supervisor when he can look out over the rivers, the hills, and the far horizon with a profound sense of his own littleness in the vast scheme of things, and yet have faith, hope and courage—which is the root of every virtue. When he knows that down in his heart every man is as noble, as vile, as divine, as diabolic, and as lonely as himself, and seeks to know, to forgive, and to love his fellowman. When he knows how to sympathize with men in their sorrows, knowing that each man fights a hard fight against many odds. When he has learned how to make friends and to keep them. When he can be happy and high-minded amid the meaner drugderies of life. When no voice of distress reaches his ears in vain, and no hand seeks his aid without response. When he finds good in every faith that helps any man to lay hold of divine things and sees majestic meanings in life, whatever that faith may be. When he can look into a wayside puddle and see something beyond mud. When he can inscribe on both sides of his line gauge "Do unto others as ye would have others do unto you" and use it as a measuring stick.

Thus, I submit to you a philosophy and urge each one of you to adjust your sights and aim carefully toward a goal that will, if reached only in part, make your job one of genuine contentment.

Little Things Make Printers More Contented

Make an extensive study of all operations in your room and list the things that printers do not like to do. Then use every effort to eliminate these things until you are satisfied there is no act of labor that furnishes reasons for the activities of grief committees.

A linotype operator is a better producer of type if his machine carries a full complement of matrices and spacebands. The machine should be kept clean and in the best running order at all times. Carry a sufficient number of good machinists to do the job right. It is the policy of our management to keep all of the equipment in first class running order. We replace the old machinery with new and modern in order to give the men every advantage in producing the very best newspaper. Operators do not like to swing magazines. Thus, we should find a way to carry them on the machine. That is the only place you can get type out of the magazine. Don't make necessary complaints from the operator that can easily be remedied.

An effort should be made to get good copy from the editorial department. Operators have a lot of unnecessary headaches because of bad copy. Editorial department heads will cooperate if they are approached in the proper manner. Bad copy irritates ad men and we should exercise every effort to clean up ad copy in order that we may keep our men better satisfied on the job.

Perhaps too often, the head of a department lets himself go out on a limb in an endeavor to correct a matter that originates in another department and concerns him only in that the condition is troublesome.

Of course, we get bad copy, have too much overset, get a lot of late copy. But we fought the Editorial and Advertising Departments for fifteen years before we learned to devote our efforts to the Composing Room.

If, because of bad copy, late copy and too much overset, your composing room costs are up, you should accept this as management policy and keep your records in a manner that management may know your problems. If management wants to tell the Editorial Department to furnish better copy, on time, and cut overset, let the order come through the proper channels. We do this on our papers through a Production Manager and because of perfect co-ordination we can devote our time to service the material handed to us by these sources.

Time is the contract binding all the mechanical operations of the newspaper. Extra time and lost time mean rising costs. In view of the rising cost of time it is essential that a proper value should be placed upon it. Given capable and conscientious men it is necessary only to determine more workable physical conditons and establish more orderly processes in order to make possible the realization of acceptable unit standards of production.

The greatest measure of progress is achieved through inspiring subordinate executives to think, encouraging initiative in them by adopting constructive and helpful suggestions.

It is surprisingly simple to find ways to make the job easier. You and I remember the days when we had to pull heavy cases out to set a line of type. The labor of pulling out the case and pushing it back took away the pleasure of composing a line to fit the copy. I didn't like to do it, so we found a way out—all of our cases are on roller bearings and can be pulled out and pushed back with the little finger. No labor at all.

Printers do not like to get all messed up cleaning proof presses. Let your janitor wash up the presses each day—make printers happy.

Good housekeeping is another important item to consider. Keep your room clean. Most of our men have clean homes and they enjoy clean surroundings—a clean place to work.

Composing Room Foreman

Too many business managers and owners are reluctant to acknowledge the real importance of the composing room executives. They, of course, know the value of the composing room equipment entrusted to the executive but too often expect him to assume a number of minor clerical duties that should be divorced from the department. It is a full time job to direct the maintenance and upkeep of equipment necessary to set type for a modern newspaper. Added to these duties is the one to direct the flow of advertising and news copy into the forms to be released to stereotypers on time. Most important is the duty to keep a force of printers happy and contented so they will produce economically. This one thing has developed since the war until it is at present one of our most difficult problems. Our men are jittery—living costs are soaring. Thus, our printers are finding a lot of difficulties, both on the job and in their home life. All of the troubles experienced by printers are thrown into the lap of the foreman and some of the problems are pretty tough to solve.

The esprit de corps in the composing room is vital. Since one of our major problems centers around the employment of a large number of members of one of our largest and oldest unions, no amount of our time or that of our composing room foreman, should be considered lost or wasted in an effort to keep these people happy while they are in our composing room. Contentment while at work goes with the worker to his home and is reflected in all his interests.

"There's a Linotype for Every Need"

LINOTYPE

The only printer or publisher who can't profitably use a Blue Streak Linotype operates a plant that needs no typesetting machine at all.

The Linotype line extends from a single-magazine Model 5 to the versatile Super Display Model 36, with wide-standard magazines capable of keyboarding all sizes from 5-point through normal 36-point faces. Yes, there's a Linotype for every need.

LINOTYPE · BROOKLYN 5 · NEW YORK

Linotype Garamond Bold No. 3 Series

I think we are sometimes responsible for the way in which so many of us conduct our composing room. Certainly there is no time available for clerical work.

The Business Manager selects us from a group of printers and places us in charge of the room. We spend so much time making out payrolls, arguing with the editorial and advertising departments about copy, because that was the way our predecessors worked. Each day we find ourselves swamped with these little details until the time element prohibits our delving into more important functions. Because this kind of work is somewhat easier and pays a few dollars more, we are satisfied and the Business Manager seems to be.

This practice has gotten a lot of would-be good executives into trouble. When we take over a plant and have so little time each day to give it needed attention, we immediately place ourselves in a position for the Business Manager to say that we are no better than the man that preceded us, because continued neglect of the equipment causes delays in production.

Every Superintendent of a large newspaper composing room should have an experienced Secretary in his office. This secretary should be trained to assemble all composing room records and keep them up to date in a manner that allows the Superintendent ready reference when he is called on the carpet for an explanation. If a Superintendent is required to do clerical work he does not have time to give his major duties the necessary attention. Time keeping and payrolls should be divorced from the department. These are auditing functions and should be taken care of in the auditing department.

Thus, if we are wise we will endeavor to prove to the management that we are capable of spending all of our time as executives rather than pencil pushers on work that a trained clerk can take care of.

Perhaps I should suggest to you the importance of training assistants in your Composing Room. You should take the time to encourage this and support a program that will give you the assurance which will make it unnecessary in the future for your management to go outside of your city for a composing room executive.

Well-trained, conscientious assistants will make your job easier and your efforts to train men will be highly appreciated by the men that profit by the training.

Key men, together with the head ad man and the head machinist should be encouraged by the Superintendent by occasional meetings at which time composing room problems should be thrown open for discussion.

The successful composing room Superintendent has learned that the job is too big for one man and the number of hours to do a good job are too few. Thus, he gathers around him a number of good key men and develops them so that his room, under this planned supervision, gives both the Superintendent and the management sufficient reasons for pride.

Dispatch Room

The Dispatch Room in our plant is located adjacent to the composing room on the fourth floor. Copy completely serviced in the Dispatch Room under the supervision of a practical printer, preferably one chosen from the ad room, reaches the head ad man in a manner that makes it unnecessary for him to keep records, thus relieving him of all clerical duties and allowing the time saved for directing the ad flow through the room and practicing economy in his department.

Watch Wasteful Practices

Type metal is expensive and should not be tied up or stored in quantities, either in border or type, that is not used constantly. It is possible and of course economical to have a program that assures a complete turn-over in material. The time element varies according to local requirements. You will find in your Monotype cases, type that was cast years ago. This is waste both in putting metal out of use and time casting. It is entirely possible to regulate the casting so that letters seldom used will not be stored in quantities. You may have tons of metal tied up that can be released.

It might be interesting to state here that all of our type below 36 pt. is set on the keyboard machines. From 36 pt. up is set on the Ludlow. Thus, we call our plant an all-slug plant. There are no composing sticks in our composing room and no type cases to pull out and push in. The Ludlow type cases are on roller bearings. The magazines for the display machines are all lower half size and Linolite material. They are housed in belt-bearing cabinets to make it possible to change with the least amount of effort.

The advice to throw out the borders that you find are not being used may appear at a glance to be a small item, but if you will take into consideration the number of pounds of metal tied up and the time spent in casting, plus wasted storage space the items that appear of little importance turn out to be another means of retarding a perfect mechanical operation.

All of us strive for perfection in our departments, but we will not achieve it so long as we have one tiny thing that can be removed. So, it is these little things that need our constant attention.

Many large newspapers have found it expedient to reduce the number of families and type faces to minimum requirements, thus establishing not only potential savings but by the use of fewer type faces throughout the paper, provide a better typographical appearance.

Make a Survey

You may be carrying a number of fonts of type in magazines, both on and off the machines that after a careful study you may discard, thus opening a way to utilize the equipment to a better production advantage.

A simple and convenient way to make a survey of type requirements is to turn the matter over to an intelligent clerk. Check the papers for two weeks and record the number of lines of each face of type used. The number of times each border is used. When this data is carefully assembled you may find it possible to eliminate a number of fonts that will not be missed and you will be surprised at the number of pounds of stored metal released as well as elated when you learn the economies gained by this procedure.

You may be washing the ink off of ads when proofs are taken. This should not be done until the ad is ready to be put into the form, thus saving a lot of washings. You can purchase from your ink company, an inexpensive ink that will wash off as easily two weeks after it is put on as ordinary proofing ink does immediately after.

It is not necessary to tie up ads in a newspaper composing room. Just a few continue to do it. String is expensive but time is too, and both can be done away with in this particular operation. It is possible to fasten ads in a galley at no extra cost or time lost.

Planning New Buildings?

THE LINOTYPE CO. has issued a booklet for newspaper executives planning to construct buildings or to remodel older structures. The booklet, entitled *Is It a New Publishing Plant?* contains reprints of articles from the new-building series that has been running in *The Linotype News*, and extends the aim and scope of the earlier Linotype booklet entitled *We're Making Plans.*

The articles in the new booklet were written by executives in the industry and offer specific suggestions as to just what they would do and would not do in planning to construct new plants or to remodel older ones. The booklet is a valuable contribution to the welfare of the industry.

Requests on regular business letterheads will be forwarded by *Printing Equipment Engineer.*

PIA Affiliate

The printers of San Antonio, Tex. have been welcomed by James F. Newcomb as the 45th city to become associated with he Printing Industry of America. George F. Thurston is the executive secretary of Printing Industry of San Antonio.

Folder Issued

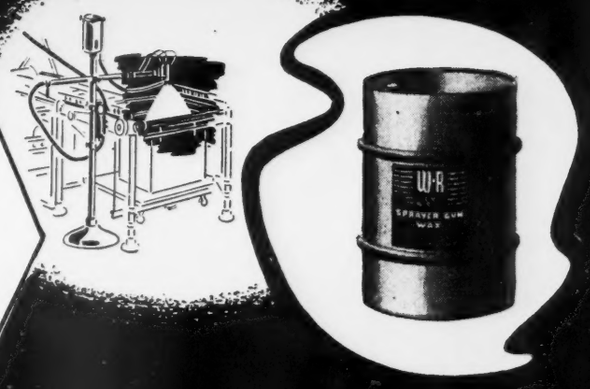
A 4-page illustrated folder about varitronic motor controls has been issued by the Electron Equipment Corp. Described in the folder are varitronic variable speed drives to use a.c. current on d.c. motors. These controls are available for motors of ½ h.p. up to 50 h.p. If you desire a copy of the folder your request will be forwarded by *Printing Equipment Engineer.*

Prevent Offsetting!

GIVE YOUR CUSTOMERS A CLEAN JOB *with*

W-R SPRAYER GUN WAX

- Can be used on all colors successively. No sandpaper effect.
- Harmless to press and operators. Safe to use on food labels and wrappers.
- Makes a fine, light spray or mist that is almost invisible.
- Absolutely colorless. Will not affect the most delicate tints or colors



W-R PROCESS COLOR WAX

- Mixes with any lithograph, offset or letter-press inks —colors or black.
- Assures perfect lifting and blending of colors. Simplifies printing of solids.
- Prevents offsetting, mottling, picking and sticking. Keeps inks from crystalizing.
- Indispensable for transparent colors and process work.

Buy from [illegible] — specialists for nearly half a century

Packed as follows:

W-R SPRAYER GUN WAX
1 gallon cans
5 gallon cans
55 gallon drums

W-R PROCESS COLOR WAX
1 pound cans
5 pound cans
25 pound cans

See your dealer or write for our [illegible] today!

Mechanics of a Greeting Card

Practically all of the printing processes used in their manufacture—Special operations included

By THOMAS P. MAHONEY*

THE exact date is not known but it was about 30,000 years ago when one of our ancestors scratched a few marks on a stone and left it at a neighbor's cave. Thus, the first greeting card was made and delivered. Today the greeting card business is an important factor in the Graphic Arts industry. In all large printing centers greeting card production takes up a substantial part of all work running on offset presses. It is estimated that the sales of greeting cards approximates $150 million each year.

I will skip over the tremendous amount of detail and research connected with the selection of designs and verses and start with the original sketch. This sketch is made in full color to the exact size of the card. Groups of these sketches are assigned to sheets which may have from 4 to 28 or more different designs on them. Standard sized layouts are used in most cases with predetermined card sizes. Using the rough original sketch as copy, an artist makes a finished drawing on special finish drawing board. After this drawing has been OKd for color and size, it is sent to the lithographer for the making of original positives.

The lithographer has the group of designs laid out for running on the press with color values being of first importance. However, we have already furnished the lithographer with a layout showing the position of each of the cards on the large sheet. Many of our cards are embossed and die-cut, and it is essential that intricate embossing and die-cutting be kept to the guide and gripper edge.

When the cards have been assembled and laid out to the satisfaction of the lithographer and in conformity with the layout, the next step is to position the cards on a flat board for photographing.

Usually four cards of average flat size 10 in. by 12 in. each are grouped together. The cards are spaced accurately because the finished positives will be used in making press plates and the cards must be squared up and have the correct spacing between designs for trimming. Most of the mid-west lithographers prefer glass positives, and make up the work in this manner. However, in the east, especially in New York, film generally is used for positives in place of glass. Both methods are satisfactory when used by skilled craftsmen.

Greeting cards are usually reproduced in four, five, or six colors.

Now that the four designs are positioned for the camera, the next step is to actually photograph the cards. As many separations are made as there are colors to be run—that is, if it is to be a four-color job, four separation negatives are made. Retouching and opaquing of the parts that are not to reproduce is done on this glass continuous tone negative. From this negative a screened positive is made. A glass positive made from the continuous tone negative. Any dot etching necessary is done at this stage.

After each positive has been carefully checked and corrected with the original work drawing, the next step is to make a proof plate. A thin coating of bichromated glue or gum is applied to the metal plate in a whirler. After the plate is dry, the glass positive is placed in contact with the plate in either a vacuum frame or a photo-composing machine. Arc lights are used for a given time to secure the proper exposure to transfer the image to the metal press plate. After processing, the plate of one color is ready for proving. This step is necessary on each of the different colors so that four separate metal proving plates are used on a four-color job.

At the time of proving a progressive book is made up to show the progression of colors. This book stays with the glass positives at all times so the pressman will know just how the finished proof was obtained. Usually about 10 proof sheets are pulled although 30 or 40 sheets may be used to get 10 which are in good register and color.

After the proofs have been checked in the art and production departments, they are returned to the ithographer for corrections. When these corrections are made, the job is ready for the press.

Press plates are made by using the glass positives and exposing them on large press plates in accurate position.

These plates are run on one, two, or four-color presses in size from 35 in. by 45 in. up to 50 in. by 68 in. in size. We feel our best cards are produced on one and two-color equipment, although the four-color work has improved tremendously in the last three or four years.

Many people think that after the sheets are lithographed they are cut apart to form complete greeting cards. Actually, this is only the first step in a series which takes in one or more letterpress operations involving electrotypes, brass dies, cutting dies and other plates.

After being lithographed, many cards are embossed. An embossing die engraved in brass is used to raise parts of the design, or in some cases, to form a separate design itself. Heat is used on the die which is impressed on the paper under 500 T. pressure on large four-post Sheridan embossing presses. These heavy machines weigh 75,000 lbs. and run at about 600 to 800 i.p.h. The terrific pressure, together with the heat, gives the paper a permanent form which increase the beauty of the design and gives the card a finish which is quite noticeable. The Sheridan embossing press will take a sheet size of 44 in. by 64 in. Electro-

(Continued on Page 42)

Production Executive, American Greeting Publishers, Inc., Cleveland. Abstract of address delivered before Cleveland and Detroit Clubs of Printing House Craftsmen, Nov. 1946 and Jan. 1947 respectively.

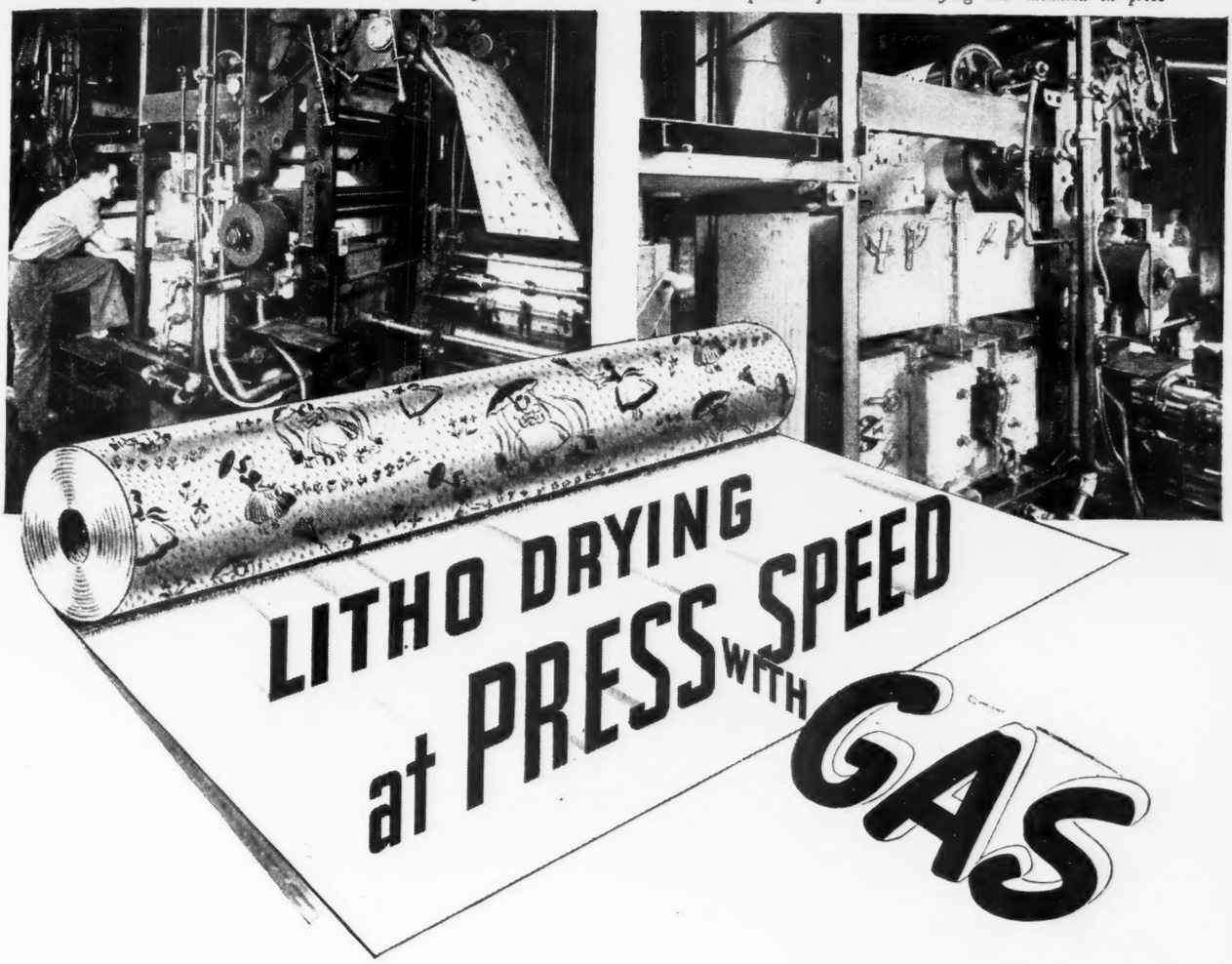
Sorry—
1947 Catalog All Gone

The demand for extra copies of the 1947 Printing Equipment and Supplies Reference Issue has been brisk. As a result, we regret to inform those who have ordered copies or may wish to do so that the supply is exhausted. We printed what we thought was a very liberal amount of extra copies. Not having any way of gauging the unusual demand for extra copies, we just didn't have a sufficient number printed.

Because of the apparent continued conservation of paper stock, we want to suggest that those wishing to secure copies of the 1948 Catalog order them any time during the latter part of 1947.

Paper is cut and folded after drying in litho-press

Close-up view of Gas-Fired drying unit mounted in press



LITHO DRYING at PRESS SPEED WITH GAS

Produces 18,000 feet of printed, dried, and packaged lithography every hour—real production-line printing.

Costs one five-hundredth cent per impression—genuine economy in lithographic ink-drying.

Increases life of plates and water-rollers—allows a nice margin for liquidating the cost of drying equipment.

Saves on space used for storage during normal ink-drying cycle, and saves by increasing "coverage" of ink—shows the profit which makes Gas-Fired Ink-Drying Equipment a good investment.

Mr. H. B. Block, President of The Emerson Press, Inc., Pittsburgh, reported these results after installing the first Selas Vapo-Lith Gas-Fired Dryer. They were good enough results to encourage the purchase of the second Selas press-speed dryer using GAS for fuel.

You will find GAS the flexible, economical, rapid-acting fuel for ink-drying, paper-curing, type-metal melting, stereotyping, and other processes requiring heat. Your local Gas Company has all the information on the latest types of Gas-Fired Equipment.

MORE AND MORE...

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FOR ALL INDUSTRIAL HEATING

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TYPICAL WOOD AUTOPLATE EQUIPMENT NOW IN FULL PRODUCTION

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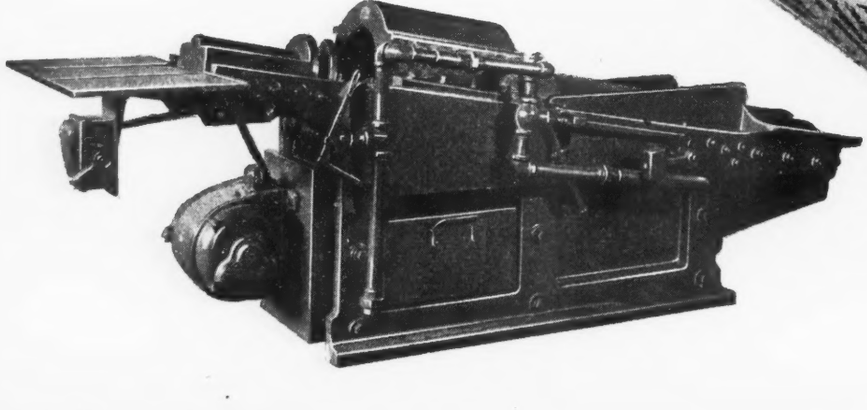


WOOD NEWSPAPER MACHINERY CORPORATION PLAINFIELD, N. J. • NEW YORK OFFICE: 501 FIFTH AVENUE, NEW YORK 17, N. Y.

Patents

For The Graphic Arts Field

Covering patents issued January 14, January 21, January 28.

All new patents for the Graphic Arts are reported exclusively for Printing Equipment Engineer by Invention, Inc., an industrial patent research organization in Washington, D. C. Invention, Inc., presently has the only staff in the country that examines, in the U. S. Patent Office, the complete printed copy, drawing by drawing and page by page, every one of the several hundred new patents issuing each week. Printing Equipment Engineer is the only trade publication in its field offering a report based on this complete coverage. For copies of the patents listed here specify the patent numbers and send 25c for each separate patent, or 10c for each trade mark or design patent (stamps not accepted) to the Commissioner of Patents, Washington, D. C.

No new patents have been issued pertinent to the usual headings "Binding, Cutting, Perforating" and "Composing Room Equipment" during the period covered by this report.

Feeding, Folding and Delivery

2,414,337, TAKE-OFF TABLE will receive sheets from a number of deliveries at different levels. It has a parallel section for each delivery level which extends along the line of delivery and comprises a moving belt for moving sheets along the line of delivery. The part of each section adjacent the delivery end is selectively adjustable to different levels so that it may cooperate with each of the several deliveries. A gate in the path of the belt blocks movement of the sheets, causing the formation of a stack of sheets. The gate may be raised at will to deliver a stack of sheets. Invented by Albert F. Shields, Forest Hills, N. Y. Assigned to The S & S Corrugated Paper Machinery Co., Inc., Brooklyn, N. Y. Application March 6, 1945. 14 claims.

2,414,386. FOLD PLATE FOR FOLDING MACHINES supports the sheet in a flat condition, prevents it from sagging or binding, and permits accurate adjustment of the fold. The unit is composed of two plates, a top plate having a number of lengthwise slots in it and a lower plate having a continuous sheet supporting surface spaced from the top plate. Two stops, pivotally supported on a rod which extends transversely to and above the top plate, are slideable cross-wise on the rod so as to permit the stops to be dropped through any two selected slots of the top plate in order to accommodate sheets of various widths. The rod, with the stops, is adjustable lengthwise to move the stops backwards or forwards. A fold of a certain length for any sized sheet is thus easily obtainable. A finer adjustment may be made by longitudinally adjusting the two bar supports along which the transverse rod slides. This is accomplished, after clamping the transverse rod to the bar supports in approximate position, by turning threaded knurled knobs on the ends of the bar supports which, themselves, have threaded ends. Invented by Raymond E. Olson, Sidney, O. Unassigned. Application August 14, 1944. 7 claims.

Plate Making

2,414,938. PHOTOGRAPHIC TRANSFORMATION OF CONTINUOUS TONE IMAGES INTO HALF-TONES allows reproduction of an increased graduation of half-tone dot patterns through the medium of a lenticular screen serving as a sheet of small lenses, edge to edge. Generally summarized, the apparatus consists of a light source, a two-part opaque masking shield with perforations therein, a continuous tone transparency, the aforementioned lenticular screen serving as many lenses, and an image receiving plate, respectively. The two-part opaque masking shield comprises one stationary wall with eight radial slots through it, and a rotatable circular shutter overlying it. The shutter has its center in alignment with the light source and has small holes which register selectively with the slots in the wall at different rotative positions of the shutter. According to the position of the small holes transmitting light rays, each of the lenses in the lenticular screen focuses a pattern from the continuous tone transparency to the image receiving plate in a prescribed position. The result is that the number of individual dots transmitted through each lens is practically unlimited and the graduation in tonal scale from high lights to shadows is complete. Invented by Victor C. Ernst, Independence, Ohio. As-

SKILL, STAMINA and TRAINING go into a smooth performance like that. Yes . . . and as in photo engraving, a great deal depends on the surface, too.

Etchers realize that by starting with a reliable metal plus a fine finish, they are more likely to show results to be proud of . . . results that go over big with customers and clients.

Today, ZOMO ELECTRIC ZINC and A-Z ALLOY are the unqualified choice of the majority of engravers everywhere . . . and the reasons include uniform texture, precision rolling, electric induction furnace casting; quick, clean etching qualities . . . and the Machine Cut Finish . . . all of which help you turn in a *smooth* performance . . . every time.

You need both of these fine metals.
Order them from leading suppliers.

ZOMO ELECTRIC ZINC ◆ A-Z ELECTRIC ALLOY

signed to The Fulton Tone Process Co., Cleveland, O. Application March 6, 1944. 10 claims.

2,415,051. APPARATUS FOR MAKING COLOR SEPARATION NEGATIVES from a colored original, which may be a colored transparency, is especially useful in sending signals over a transmission line. Since printing inks may vary and it is difficult to obtain inks of the proper spectral reflection from the printed page to provide a true reproduction, correction of negatives is desirable to make more natural the color reproduction in the final print. This scanning machine features a single scanning source. The films being exposed are all exposed in corresponding portion simultaneously. A single light beam is converted into a pair of beams, each of which has the same components as the original beam. The two beams swing simultaneously, each being converted through photocells to alternating currents proportional to selected spectral components of the picture and the currents are used to control exposure of separate negatives. Invented by Louis A. Thompson, Rocky River, O. Assigned to NEA Service, Inc., Cleveland, O. Application November 19, 1941. 21 claims.

Printing Inks and Related Chemicals

2,414,117. THICKENING AGENT MADE FROM OATS is useful in printing inks and in paper and textile sizes. Method of preparing comprises dehulling oats, grinding the groats until a major part will have a fineness in excess of 60 mesh, separating the minor part of coarser particles and then extracting the coarser particles with a water-alcohol mixture comprising 5 parts of water to each part of alcohol. The remaining water-alcohol soluble fraction constitutes the thickening agent. Invented by Sidney Musher, New York, N. Y. Assigned to Musher Foundation Inc., New York, N. Y. Application May 4, 1944. 12 claims.

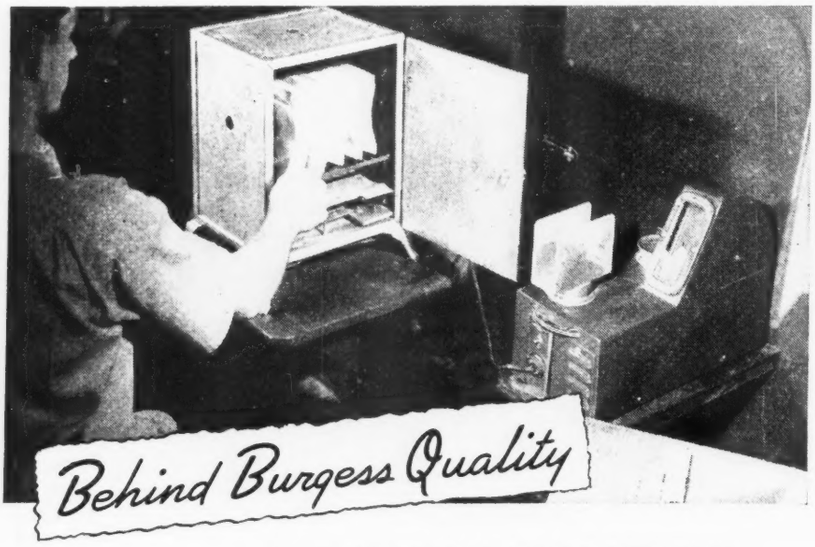
2,414,289. CONDENSATION PRODUCTS OF MELAMINES AND SUBSTITUTED MELAMINES WITH ALKYLENE OXIDES find application in the formulation of printing inks, dye pastes, leather preparations, etc. Product is obtained by condensing a melamine or substituted melamine with a compound containing an alkylene oxide ring. Products are of particular utility in the formation by reaction with an amine or a fatty acid of surface-active agents and in the emulsification of glycerides, fats and oils, and the like. Invented by Walter P. Ericks, Buffalo, N. Y. Assigned to American Cyanamid Co., New York, N. Y. Original application January 17, 1941, divided and this application December 24, 1943. 7 claims.

Printing Presses and Equipment

2,414,818. PRINTING PRESS INKER applies fresh ink to the form upon each oscillation of the form in either direction. Two ductor rollers are mounted in such a way that they pick up ink from the ink fountain and transfer it to the form rollers. Driving means, oscillatable synchronously with the press form, provide enough speed so that fresh ink delivered from the fountain during an oscillatory movement of the form in one direction reaches the form rollers during the same movement. Printing through a desired length of form with a shorter stroke of the form and bed than heretofore is thus provided, resulting in a great saving of space. The invention involves a great many other cooperating improvements as indicated by the patent's 89 claims. Invented by John Kunz, Pittsburgh, Pa. Assigned to Miller Printing Machinery Co., Pittsburgh, Pa. Application August 3, 1940. 89 claims.

2,414,891. WEB DRYER ARRANGEMENT, especially for letter presses, is said to allow higher speed and greater safety. Apparatus includes the usual dryer hood and a series of gas burners, connected by tubes, which are served simultaneously. A pilot serves one of the burners. Separating solid flanges provide a barrier to flow of gas between adjacent burners. Combustion on each side of the barrier is supported whereby a burner on one side of the barrier will be ignited responsive to the supply of gas to it wherever the burner on the other side of the barrier is supporting combustion. Invented by Bernard Offen, Chicago, Ill. Unassigned. Application February 19, 1944. 6 claims.

2,415,025. HIGH FREQUENCY ELECTROSTATIC HEATING, which may be applied to a variety of materials under treatment, utilizes novel forms and arrangements of electrodes. Thick mass-



WE WEIGH MOISTURE...

TO PROTECT YOU. Yes...good mats...Burgess Chrome Mats... must have exactly the right moisture content. And it must be uniform... alike in every sheet. So...we take one sheet in every fifty from the seasoning room...weigh it ...then bake it bone dry in an electric oven...and weigh it again. The difference is the moisture content.

A few days later we repeat the process with another set of samples from the same run of mats. This procedure is repeated until readings show that the moisture content is exactly right and is uniform throughout the entire quantity being seasoned. Not until then are these mats ready for you.

A Laboratory Product BURGESS Chrome MATS

This is another one of the important steps in the Burgess "Laboratory" method of mat making ...one of the reasons why Burgess Chrome Mats can be depended upon...day in and day out...to produce uniformly fine results.

BURGESS CELLULOSE COMPANY
Manufacturers and Distributors of Burgess Chrome and Tone-Tex Mats
FREEPORT, ILLINOIS
Pacific Coast Representative RALPH LEBER CO., 426 Polson Bldg., SEATTLE, WASH.

es of material may be vulcanized just as rapidly as a thin strip. For example, the process is adapted to making printing press rollers wherein the rubber is made fast to the metallic core. The drying of ink on freshly printed copy to prevent offset, agglomerating of non-metallic dielectric materials, etc., is also mentioned. Two electrodes of opposite instantaneous polarity are provided and the intervening mass to be treated may be stationary or in motion. Preferably there is relative rotational movement between the electrodes and the mass about the longitudinal axis of the latter. The projections of the electrodes on the diameter extend from a point spaced from the periphery of the mass to a point spaced from the axis of the mass. Thereby, during relative rotational movement an intermediate annular zone of the mass is given a more intense treatment than either the central or peripheral zones. Invented by Herm H. Giodvad Grell, New York, N. Y., and Harry W. Richards, East Orange, N. J. Assigned by direct and mesne assignments to The Firestone Tire and Rubber Co., Akron, O., and The B. F. Goodrich Co., Akron, O. Application April 22, 1943. 14 claims.

For Patent Research in the U. S. Patent Office, or a prompt estimate on any type of search, address INVENTION, INC., Munsey Bldg., Washington, D. C.

PERMANENCY OF INKS

Abstract from address delivered by G. L. Erikson, Executive Vice President, Braden-Sutphin Ink Co., Cleveland, before convention of the Intl. Association of Printing House Craftsmen, Montreal, Can., September 1946.

UNUSUAL specifications regarding permanency make for some very difficult problems, and often will affect the other qualities of an ink. Fastness to sunlight, alkali, acid, soap, oil, grease, alcohol, lacquer, sterilization, etc., are sometimes required when these are not necessary, if the use of the printed article is considered.

For instance, I was once asked to make an ink for a soap carton, which would not change color when boiled for two hours with 40 percent caustic soda solution, yet on the carton was printed "This soap will not harm the most delicate fabrics, nor the most tender babies' skin." Don't add any unnecessary specifications when ordering inks, as these will often make for troubles which could otherwise be avoided.

Rapid Roller Meeting

A story of the conquest of research over war-time shortages was related recently at a meeting of the Rapid Roller Co.'s national sales organization at the Stevens Hotel in Chicago. The company described achievements of its research chemists and engineers in finding substitute materials to take the place of those unavailable. Many of these new test tube wonders have proved superior to original materials. "Prospects for 1947 are the greatest ever for the graphic arts industry," said D. M. Rapport, president of the company. "Shortages of materials are diminishing and our customers report sales of printing and lithography are holding up very well. In view of this circumstance, the Rapid Roller Co. can look forward to expanding sales operations during the coming months. Innovations perfected in our laboratories during the past few years can now be made available for the first time to our customers."

Film Booklet Issued

THE Eastman Kodak Co. has issued an attractive 16-page illustrated booklet to introduce Ektachrome film. Ektachrome is a color film that can be processed by the photographer in his own workroom. Steps in the process are described in the booklet with an explanation of color prints by the Kodak dye transfer process. *Printing Equipment Engineer* will be glad to forward your request for a copy of the booklet.

INCREASED OUTPUT

Teletypesetter provides means for utilizing your linecasting machines at their full rated capacity. Through automatic operation by means of perforated tape control you can obtain a greater daily or hourly lineage production than you ever dreamed possible. Users of this equipment attest the truth of this statement, for 85% of our customers have given us repeat orders since their first installation was made.

GREATER ECONOMY

Present day conditions demand greater economies than ever before. If machine composition cost is one of your current problems, why not join the growing group of forward looking publishers and printers who are looking toward automatic operation in 1947. Teletypesetter perforators and operating units can furnish you with what you need to meet your daily problems. Why not write for literature today?

TELETYPESETTER CORPORATION
1400 Wrightwood Ave., Chicago 14, Ill.

TELETYPESETTER
REG. U. S. PAT. OFFICE

First Impression Offset Is First ANPA Objective

THE beginning of the Research Program of the American Newspaper Publishers Association has been approved by the Board of Directors with funds provided for the employment of a competent executive to give full time to supervising and coordinating research on daily newspaper problems. The primary aim is to accomplish things which would improve the appearance of the daily newspaper.

In addition, the Board authorized a project to start immediately in an effort to eliminate first impression offset, the work to be done by a concern or institution selected by the Research Committee to be set up in connection with the Mechanical Committee.

J. L. Stackhouse, publisher of the Easton (Pa.) *Daily Express*, and a member of the ANPA Board, has been chairman of a committee working for several months on recommendations to establish the Research Program. With him on that committee were Worth C. Coutney, business manager of the Chicago *Herald-American*, and A. H. Burns, mechanical superintendent of the New York *Herald-Tribune*.

The Board has appointed Mr. Stackhouse the chairman of the Mechanical Committee to initiate the Research Program, succeeding Mr. Coutney who resigned as chairman after serving more than a year. At the time Mr. Coutney became chairman of the Mechanical Committee, he was general manager of the Toledo (O.) *Blade* and in resigning now states that new duties make it impossible for him to continue as chairman.

Mr. Stackhouse is expected to announce shortly other members of the Mechanical Committee and a meeting will be held soon to go over the program for research and make plans for the annual Mechanical Conference in Chicago in June.

In making its report to the Board on the Research Program, the Stackhouse committee had the benefit of a survey by J. W. Rockefeller, Jr. & Associates, 140 Cedar Street, New York, N. Y., who spent six months making a check to determine the possibilities of further research into improvement of the physical appearance of newspapers. Among the recommendations of the Rockefeller report was the employment of a staff to collect and coordinate the research already undertaken by individual newspapers, manufacturers and educational institutions. Out of the Rockefeller report came the discussion which resulted in a decision to start immediately on research for the elimination of first impression offset.

Hoe's Annual Report

For the first time since R. Hoe & Co., Inc., became a publicly-owned enterprise in 1924, the company is entirely free of long-term debt, Joseph L. Auer, president, stated recently in his annual report to stockholders. During the fiscal year which ended September 30, 1946, a $750,000 bank loan was paid off, and a revolving bank credit of $1,250,000 terminated.

Mr. Auer said that "The close of the first year of post-war operations has ended an eight-year program which has wiped out $5,413,243 of debt, preferred stocks and other accumulated obligations which existed when the present management assumed control in October, 1938."

Sales for the year amounted to $6,221,259 which resulted in a net profit after all charges and taxes of $447,284.

BEA Services

The British Engineers' Association has reestablished two services for its subscribers and commercial friends. The BEA Register is available to subscribers who wish to obtain information about commercial engineering practice in Great Britain.

The 1947 BEA Handbook is available to purchasers of engineering plant upon request to the British Engineers' Association, 32 Victoria St., London, S.W.1 This handbook includes names and addresses and principal products of the Associations' members.

Avoid That Objectionable Stretch

Willy can avoid that stretch by being good — you can avoid stretch troubles in engravers' zinc by being smart and specifying Imperial's Register-Redibak.

IMPERIAL TYPE METAL CO.

Serving the Graphic Arts Industry Only

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CASTING IS *EASY!*

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EASYKASTER

EK-5—5 column x 18" with 400 lb. melting pot.
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EK-8-P—8 column—with 800 lb. melting pot.
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Prompt delivery on 5 and 6 col.

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3 products for better STEREO PRODUCTION

Eastern products will help you get sharper, better looking papers out faster. To meet today's schedules, mat molding must be quick, sure and reliable. Here are Eastern Newspaper Supply products that will help you do just that—

Eastern TRU-MOLD Cork Molding Blanket with just the right amount of Bakelite to insure perfect density. Guarantees maximum "come-back" for sharp, clean impressions, durability and minimum edge cracking.

Tru-Molds can be had in either "Medium," "Medium-Hard" or "Hard" density in standard sizes and 21 x 25 x $\frac{3}{16}$".

"FLECTO" Gummed Backing Felt assures clean cut molds. Sticks flat to the mat regardless of scorching heat. Does not crack, slip or crystallize. "Flecto" is uniform, soft, pliable. It does not peel or separate in layers, but conforms to and shrinks with the mat.

Available in sheets or strips in the following sizes:
Gauges .012, .025, .030 (Green) sheeted 18" x 24".
Gauge .035 (Red) sheeted 18"x24".
Gauges .040, .045 (Green) sheeted 18"x22".
Gauges .050, .060 (Gray) sheeted 18"x20".
Cut into strips 9" or 18" long and $\frac{1}{8}$" to 1" wide at no extra charge.

DEEPMOLD CREEPER — New — Superior. The most advanced development in molding creepers. Deepmold gives sharp, clean halftone reproduction, does not cut or spread column rules—molds extra deep bolsters.

Sizes	Prices
20x24x$\frac{1}{8}$"	$3.50 ea.
21x25x$\frac{1}{8}$"	3.65 ea.
22x26x$\frac{1}{8}$"	3.80 ea.

EASTERN NEWSPAPER SUPPLY
9603 NORTHERN BLVD., CORONA, L. I., NEW YORK

Thermostat on Nolan Supercaster

THE Nolan Stereotype SuperCaster is now equipped with a new type of gas or electric thermostatic control for the melting pot. The gas flame is thermostatically modulated to keep the melting pot at correct pouring temperature. No pilot light is used, according to manufacturer. Further information can be obtained from *Printing Equipment Engineer*.

Jacklift Booklet

LEWIS-SHEPARD Products, Inc., has released an 8-page, illustrated booklet on its Power Jacklift. The features of this truck are its electric drive, electric lift and electric brake. The truck can be operated with the handle in every position and can be maneuvered in congested areas. Platform model available in 4000 and 6000 lbs. capacity. Copies of the booklet may be secured upon request to *Printing Equipment Engineer*.

Paisley Buys Lignotite Co.

The Paisley Products, Inc. of Chicago has purchased the Lignotite Co. of that city, it was announced recently by Earl C. Lenz, sales manager. The purchase included all formulas, manufacturing processes, technical and customer records and supplies. The Lignotite Co. had been engaged in the manufacture of casein glue and wood preservatives.

Kenneth A. Harper of Sacramento is now representing the Linotype Co. in central California and in western Nevada. Just before enlisting in the Navy, in 1942, was superintendent of the *Riverside News*. Before joining the Linotype sales force, he worked a year in the factory, where he helped to build and finish new Linotypes. He is a charter member and a past president of the Citrus Belt Club of Printing House Craftsmen, is now a member of the Sacramento club, and is a member of the International Typographical Union.

EDES LEADS IN THE ETCHER

The amazingly uniform structure of Edes photoengraving zinc is proved in the etcher. All portions of the flat etch equally; none more or less than others. There are no bad places in the metal to nurse and waste time on. Etching and re-etching are greatly simplified and speeded. Finishing is minimized. In use, the plates stand up better, don't break down in spots. Use Edes zinc — Regular, for most requirements, and Hard Matrix, for matrices and heavy duty.

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Hard Matrix Zinc
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Copper
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THOMPSON-HAYWARD CHEMICAL CO.
Kansas City

E. H. WALKER SUPPLY CO.
Washington, Richmond

Mechanics of a Greeting Card

(Continued from Page 34)

types are used by many embossers who secure very fine results.

Some printers are getting excellent results by embossing on flatbed presses. The difficulty here is in getting sufficient pressure. It also takes a pressman who really knows how to makeready an embossing form. With experience, first class results can be obtained.

Many of our greeting cards are die cut. Sometimes this is done on sheets that are not embossed and many times it is done after the embossing operation is completed. This diecutting is usually done on large flatbed presses which are specially constructed for cutting and creasing. Some converted printing presses are used, but more satisfactory work is turned out on a regular die-cutting press. The converted presses have a special steel jacket which is formed to fit the cylinder.

We furnish the die cutter hand-cut sample cards to be used in making the dies of steel rule. The first thing the diecutter does is to rule up a sheet and check the individual cards with the sheet to be sure they are square. He marks out this sheet using the sample cards furnished as copy for his dies. The steel cutting rule is 2 pts. thick and either 0.918 in. or 0.937 in. high. In making the dies considerable skill and careful preparation is necessary. The rule is formed on special bending machines with many different sets of forming tools being used in combination to match the copy.

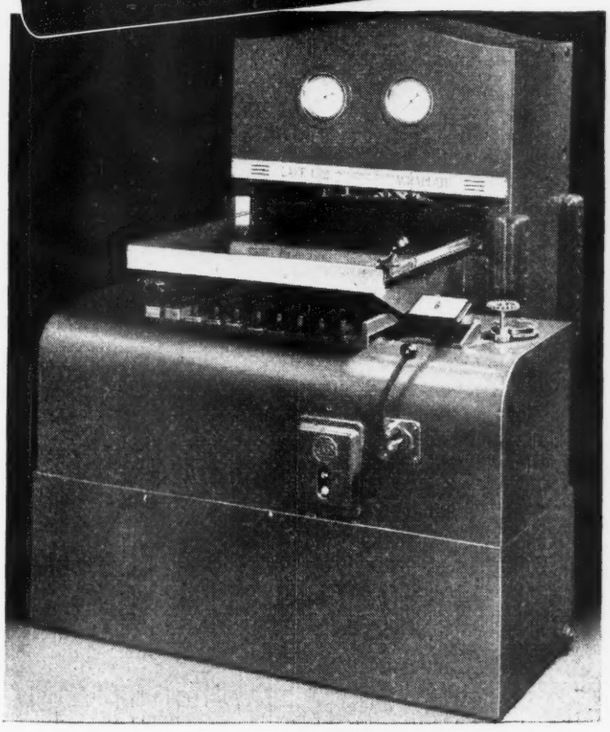
After the rules are formed, they are checked with sample die-cut cards and the partly finished dies are pressed through the layout sheet to make an actual die-cut card. Because of intricate dies, it is necessary to use soft rule which will bend easily. After bending, the rule must be hardened in a small furnace or else the rule would not stand up very long on the press. When the rules are hardened, the mask which was made by pressing the partly finished dies through the press sheet, is transferred onto the die base which is usually made of 5 ply laminated birch. The wood base is then prepared for the insertion of the rules. Small holes are drilled through the wood, and it is sawed according to the outline of the card pasted on it. The

ACRAPLATE...for
plastic and rubber molding

More ACRAPLATES (nearly 200) are serving progressive plants in the United States and Canada than all other makes of equipment combined This outstanding preference for the ACRAPLATE is readily understood. For today's ACRAPLATE is backed by fifteen years of steady development during which Lake Erie has played a major part in the perfection of plastic and rubber molding in the plate-making field.

PREFERRED BY LEADING PLANTS

Illustrated is the Model 18 Acraplate with 24"x20" platens. Acraplates are available in a complete range of standard sizes



The modern ACRAPLATE has been engineered to today's exacting plate-making requirements—for plastic plates, rubber plates and plastic electrotype molds. It will pay you to write Lake Erie today for complete information about the latest ACRAPLATE equipment.

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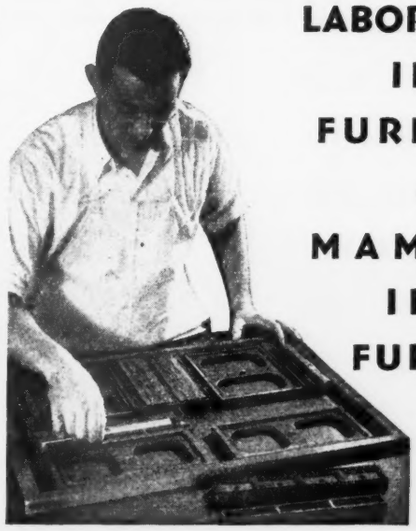
● Leading manufacturer of hydraulic presses—all sizes and types—stereotyping..plastic molding..processing..rubber vulcanizing..metal working..forging..metal extrusion ..special purpose.

LOWER COSTS
RAISE QUALITY with CHALLENGE



LABOR-SAVING IRON FURNITURE *and* MAMMOTH IRON FURNITURE

▼

★ Give your compositors the right kind of tools and they'll do a better job—faster. Ask the men who use Challenge Iron Furniture—you'll find it in the best print shops.

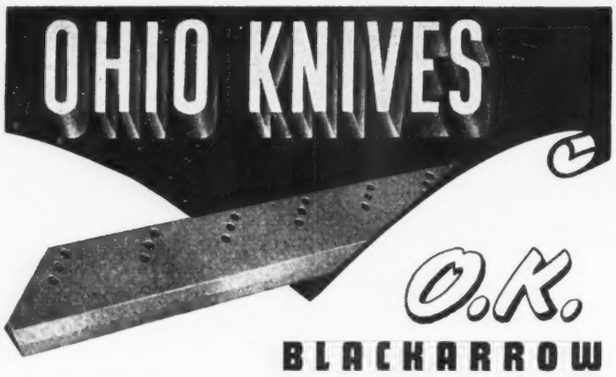
CHALLENGE
LABOR-SAVING IRON FURNITURE
AND MAMMOTH IRON FURNITURE

is made of a specially selected mixture of close-grained iron, accurately machined to absolute point measures. All edges are beveled to a ***"Velvet Edge"*** to prevent denting or chipping and cutting of fingers. They are lightweight, but with stiffening ribs in each piece for added strength and to provide finger hold for rapid handling. Figures on both sides show pica sizes.

CHALLENGE LABOR-SAVING IRON FURNITURE is made in 120 standard sizes from 2x4 to 10x70 ems pica. Drilled for drainage.

CHALLENGE MAMMOTH IRON FURNITURE is made in 70 standard sizes from 15x15 to 60x120 picas. They are made especially for dressing out a large chase when locking up a small or open form. They eliminate work-ups and "springy" forms. Invaluable in book and color work for filling large spaces accurately and quickly. All pieces are adequately filleted and ribbed for strength. Write for data and prices.

THE CHALLENGE MACHINERY COMPANY
"Over Fifty Years in the Service of the Graphic Arts"
GRAND HAVEN — MICHIGAN



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PAPER TRIMMING KNIVES

● They give 25 to 40% longer service. Give better cutting at lower cost—proven under severe test in America's largest paper mills and printing plants. Made of a new alloy to withstand heavier cutting and still hold a keen edge for long runs. Ground with a slight concave and taper on the face for clearance—smooth cutting.

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THE OHIO KNIFE CO.
CINCINNATI 23, OHIO

Gentlemen: Please send without obligation specific data on knives I have checked.
☐ Trimmer ☐ Revolving Cutter ☐ Slitter

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DRY MATS
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SAMPLES TO YOUR SPECIFICATIONS
GLADLY SENT GRATIS UPON REQUEST

New Products Division
THE BEVERIDGE PAPER COMPANY
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hardened rules are then forced into the sawed slots which are cut the same width as the thickness of the rules. After the die has been completed, cork or rubber is attached to the top of the die base. On the press, this rubber acts as a stripper by receding under impression and expanding as soon as the impression is released. This expansion forces the paper from the die so the sheet may be delivered. Sometimes a solid sheet of rubber is used. On large dies however, strips are usually inserted along the edges of the cutting rule to conserve the rubber.

You may wonder how a sheet can be delivered when the cards are cut by the rule dies. The secret is a small nick in the rule on each side of the card. This holds the card on the sheet and permits delivery. When the die-cut cards are stripped from the sheets and piled on skids, the "necks" are polished off with sandpaper to obtain a smooth edge.

You can readily understand the necessity for careful makeready as the cutting rule must contact the cylinder or plate exactly. Too heavy an impression means dulling of the delicate cutting edge of the rule after a few impressions. Too light impression gives a ragged cutting since the die goes only part way through the paper. Some dies yield over 300,000 impressions.

Some cards call for intricate die-cutting which cannot be done until after the card is folded. In that case the card is cut out of a sheet and after folding a special die cuts all four sides of the card in one impression.

When cards are die-cut in flat sheets, holes or slits for ribbons or other attachments may be made. Exact register can be obtained in all of these operations because the same guide and gripper as used on the offset press is used here.

The next operation is folding. This is done on machines which french fold cards at the rate of 7 to 9 thousand per hour. Practically all cards are machine folded.

The cards are counted and packed in boxes on delivery from the folder. Some cards which have particularly intricate die cutting are hand folded. Many cards have attachments added to them after they are folded. For example, ribbons, buttons, and various other finishing touches are added. In applying glass beads, either silk screen or letterpress may be used. If letterpress, a regular line plate is made in the design to be used on the card. This plate is used to apply an adhesive to the cards which are then sprinkled with beads which adhere to the adhesive and form the design. Many mechanical gadgets are used when applying finishing touches to cards. On sheets of cards that are not die cut the individual designs are trimmed out of the large sheet on a guillotine cutter. This is another operation requiring extreme accuracy if the cards are to cut correctly. On large sheets, especially the embossed ones, great care must be exercised to be sure that the sheets are jogged and that there is very little draw when the cut is made. Large automatic spacer machines which have a device along the same lines as the tabulating bar on a typewriter are used to cut most of our own cards.

The silk screen process is used for reproduction when the runs are short or where a special effect is to be obtained. As compared to letterpress and offset, the plate cost is practically eliminated. Silk screen printers use paint rather than ink, and they always talk about paint while letterpress and offset printers use the term ink. One of the requirements of silk screen work is the necessity for racking to dry the heavy paint used in printing. Some printers use belts to take the sheets through drying ovens or under infra ray lamps to assist drying.

Practically every silk screen processor has his own method of making stencils. Some use the masking method of cutting out the design to be printed on heavy paper which allows more paint to be applied to the paper. The thickness of the mask governs the amount of paint applied. Other silk screen processors use glue and special mixtures of their own in place of the mask. Some striking results are obtained by this method of reproduction, but as I mentioned before, the volume of cards produced is small because of the comparatively slow production.

Some large machines are being used for this work, and large sheets of paper and board are handled. The squeegee is worked automatically, and much greater production is obtained than by the hand method.

At one time, most of the greeting cards used in this country were produced by

All in ONE Basket

We keep a close watch on the one basket which holds all our eggs. This specializing—serving *only* the graphic arts industry—lets us serve each customer best. For 34 years, we have given all our attention to men like you—giving them quality, service and performance. Is it any wonder that we have been successful in satisfying such men? The quality reduces costs; the service supports the quality; the performance keeps them as customers, year after year.

Take advantage of this specialization and enjoy the same benefits in your plant. Decide now to join the quality buyers. Satisfy both yourself and the treasurer with one GOOD metal.

Write today for facts.

IMPERIAL TYPE METAL CO.

Serving the Graphic Arts Industry Only

Philadelphia 34 **New York 7** **Chicago 50**

Imperial

. . . OUR NEW HOME OFFICE ADDRESS IS:

2 SOUTH MAIN STREET

SOUTH HACKENSACK

NEW JERSEY

(Instead of WEATHERLY, PA.)

WE are happy to announce that our new plant in SOUTH HACKENSACK now houses the Home Office and Shipping Department of the Company.

While a branch plant is being maintained in our Weatherly, Pa. building, all business is now transacted from the new plant.

The new building of 36,000 Sq. Ft. especially designed for the expanding manufacturing operations of the company, also has improved and enlarged facilities for shipping and administrative departments. We expect the greater efficiency gained thereby, will make our service more prompt and complete than ever.

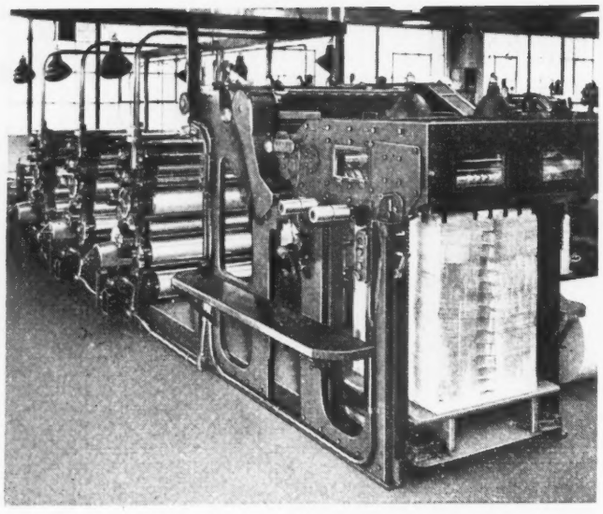
A cordial invitation is extended to all to visit the new home of "STAR" PARTS.

What the machinist likes about ACE-BELTS is that they don't stretch.

PRECISION
TRADE ★ MARK

LINOTYPE PARTS COMPANY

Factory and Main Office:
SOUTH HACKENSACK, N. J.
Branch Office: 314 W. 10th St., KANSAS CITY 6, MO.
CHICAGO • MINNEAPOLIS • DENVER



DUTRO

WEB PRINTING PRESSES

If you are interested in web printing presses— offset, relief offset, rotogravure, or rotograph detachable plate presses for publication or flat sheets — write, wire or phone:

ORVILLE DUTRO & SON

600 Bendix Building • Los Angeles 15, California

Newspapers are still printed to be READ

And people sometimes turn away because the reading matter is not inviting . . . Stress on the printing of halftones or display sometimes blinds publishing executives to the fact that the final test of any paper is whether you like to read it . . . Stereo and press experts who labor to make papers more readable will tell you that the mellow clarity of Certified reproduction is a big help.

For dependable stereotyping, rely on Certified Mats

Certified DRY MATS

CERTIFIED DRY MAT CORPORATION, 9 Rockefeller Plaza, Dept. M, New York 20, N. Y.

letterpress. However, with changing styles and improved methods of reproduction, offset lithography has gradually taken over. Today, many combinations of letterpress and offset are being used. Also black and silver printing is used to obtain unusual effects.

In preparing copy for letterpress line printing, the original dummy is made up and a work drawing is usually made in one color. A thin line is used between the colors where they meet so that the photo-engraver can paint up to the line when making separations. The zinc plates are proved in color and then OKd. Electrotypes are made for running on the press. After printing, the operations of die cutting, embossing and folding are handled the same as with the offset sheets.

A small percentage of the greeting cards on the counters today are reproduced by photogravure. However, this method is showing great improvement and within the next two years we can look for an increasingly larger volume of work by gravure.

At the present time one of the problems in gravure printing of greeting cards has been the cost of the cylinders. On reruns it is necessary in many instances to change the number up of a given design on a sheet. Take for instance a sheet is run which has eight different designs up on the first run. A rerun is ordered which specifies only four designs to be run two up of each. It is then necessary to make up a new set of cylinders which is expensive as compared with offset or letterpress. A great deal of research has been going on during the past five years, and undoubtedly some method will be developed which will solve this problem.

Some of the finest greeting cards are still made by die stamping. In this method of intaglio printing, a steel plate is etched or engraved with the design to be printed.

The cards are usually run not more than two up on a die-stamping press which operates in much the same manner as a gravure press. The steel plate has ink applied to it and then the surface is wiped clean by a doctor blade so that the ink stays in the recesses and is transferred to the paper under impression. The cards are placed on racks for drying. Although the operation is very slow, a certain number of cards are produced each year in this manner.

National Ad Plates

(Continued from Page 17)

Mr. Rairigh felt, however, that something has been accomplished and will be accomplished in the future by the regional meetings like the one being held currently in Cleveland. As a result of these regional meetings Mr. Rairigh said it was discovered that all of the men concerned in the art, copy writing, production, reproduction and printing of newspaper advertisements are not familiar with the requirements. Hence, the desirability of these regional meetings. His final statement was to the effect that the production worker alone (in the advertising agency) is helpless in trying to secure good newspaper advertising reproduction unless he has the cooperation of every one concerned.

Engravings That Will Reproduce in Newspapers

Chairman Link introduced M. G. Wenning, Vice President, Art Engraving and Colortype Co., Cleveland, who spoke upon the topic *Engravings That Will Reproduce in Newspapers.*

Mr. Wenning is vice president of a company which has done considerable engraving for newspaper advertising purposes. He stressed the point that photo-engravers should receive specific instructions with respect to the specifications for newspaper plates. He stated that for years it has been commonly understood that in the newspaper halftone plate the depth between the highlight dots should be 0.008 in. and 0.005 in. in the middletones with approximately 0.004 in. in the shadows. In particular he said there should be no undercutting of the halftone dots, there should be no shoulders between the dots and full routing instructions to finish the plate should be specified.

Art copy for newspaper advertising should be furnished in as few pieces as

You are the loser when a cut gets out of position between the time it is made up in the form and the mat is pulled.

Production goes down, costs go up . . . but not necessarily so in your plant, if your comps and makeup men have a supply of Booth Zink Cut Cement on hand. Booth Zink Cut Cement comes in handy, tough, easy-to-use tubes. It fastens any kind of cut or shell cast stereo to either wood or metal base firmly, securely, and safely. It is economical too. Get positive, sure cut, mounting with Booth Zink Cut Cement, the fastest cut mounting method.

PRICES: In the United States: 75c per tube, $6.00 a dozen tubes, $5.00 a dozen in gross lots.

Booth's Black Rubber Rolls

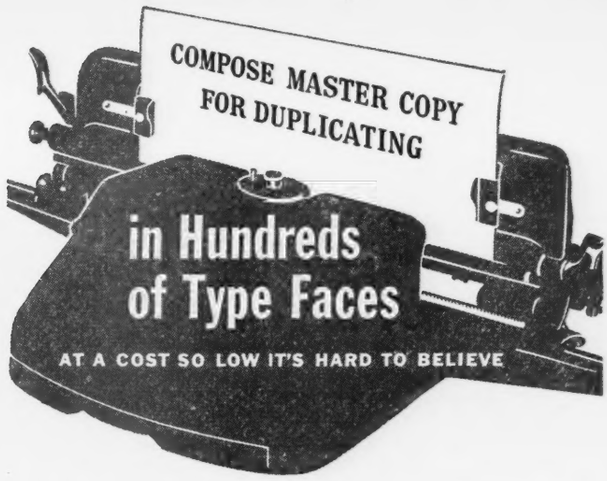
For trouble free line-casting machine performance, replace worn, unresponsive keyboard rolls with Booth's Black Rubber Rolls. To get sweet-running machines, line-casting machine operators and machinists the country over use Booth's Black Rubber Rolls. They give maximum cam tread friction and maintain a true, even diameter when installed correctly.

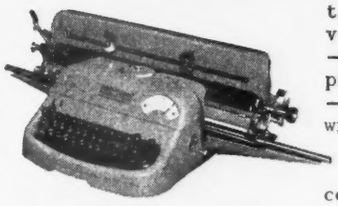
PRICES: $1.45 per pair, $7.75 per dozen.

E. A. BOOTH RUBBER CO.

MAHONING BANK BUILDING

YOUNGSTOWN, OHIO





For jobs where you want the good appearance and variety of type-set copy —but where economy and profit are also important —nothing even compares with VARI-TYPER*!

VARI-TYPER is the *only* composing machine on which you can set type, in more than *300 faces,* from 5 to 18 point, using a *letter keyboard that's just the same as the one on a typewriter!* And you can change from one type font to another in just a second or two!

Copy that's unrolled from VARI-TYPER is *reproduction copy*—clean and sharp...with automatically justified margins...with any desired horizontal or vertical spacing...display and bold or highly condensed...ready for offset, Mimeograph or Ditto!

Just think of what you gain with a VARI-TYPER. A complete variety of printed effects, ready quickly without delays, bringing profits and savings that often average *50% of the cost of the entire job!* It is the most profitable equipment in many offices!

Arrange for a free demonstration of this compact, inexpensive machine at your own office or plant...send for a variety of VARI-TYPED samples ...Write today to DEPT. PE-3, Ralph C. Coxhead Corp., 333 Avenue of the Americas, New York 14, N.Y.

Text set by VARI-TYPER in Bodoni Book series.

VARI-TYPER is profitably used by thousands of:

- DAILIES
- WEEKLIES
- MANUFACTURERS
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For composition of inexpensive:

- PROMOTION PIECES
- MARKET STUDIES
- REPORTS
- TABULAR MATTER
- FORMS, RECORDS
- HOUSE ORGANS
- MANUALS
- RATE CARDS
- AND HUNDREDS OF OTHER JOBS!

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Vari-Typer

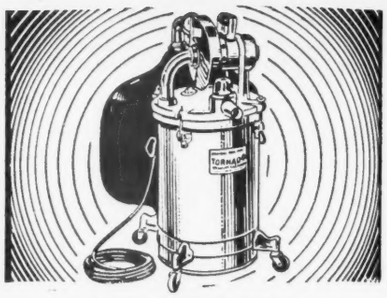
Composing Machine

—RALPH C. COXHEAD CORP.—

333 AVENUE OF THE AMERICAS, NEW YORK 14, N.Y.

tags
20 STOCK COLORS IN A DOZEN GRADES AND WEIGHTS
PLAIN TAGS made single, gangs, continuous strips; brass eyelets, numbers, perforations; slits, scoring, holes and slots.
PRINTED TAGS in one or more colors, one or both sides; numbered, with strings, wires, hooks, barbs or deadlock fasteners attached; or separate.
ALL SIZES: standard, special or oversized in manila, sulphite, jute, rope, cloth.
DIE-CUT TAGS, printed in multiple colors, strung, packed in plain boxes.
STOCK AND SPECIALTY TAGS:
SOLD TAGS
REPAIR TAGS
BAGGAGE TAGS
MARKING TAGS
NUMBERED TAGS
SHIPPING TAGS
ALTERATION TAGS
PRODUCTION TAGS
STRING PRICE TAGS
SPECIAL SALE TAGS
WATCH REPAIR TAGS
TAG ENVELOPES
RECEIPT ENVELOPES
FLORIST TAGS
FLORIST ENVELOPES
STRINGING
CONVERTING
LET US QUOTE YOU ON
STRINGING your straight-cut or die-cut booklets, pamphlets, folders or cards. Punched and strung, tied in 100's and boxed.
CONVERTING of your plain or printed stock: patching, eyeletting, cornercutting, stringing, wiring, etc.
Please mention this publication when writing.
YOUR STOCK
CORNER CUTTING
PATCH & EYELET SETTING MACHINE
STRINGING
STANDARD TAG CO.
ESTABLISHED 1925
TAG MAKERS AND STRINGERS TO THE TRADE
MODERN FACTORY AT:
65 DUANE STREET, NEW YORK 7, N. Y.
Bet. Broadway & Lafayette St.,
Tel. WOrth 2-3296
COPYRIGHT 1946, STANDARD TAG CO.

QUICKER CLEANUPS with TORNADO



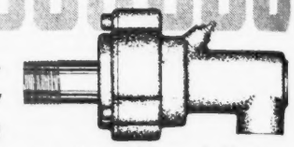
KEEP your plant clean — protect machinery — reduce power costs—salvage scrap — with the TORNADO Portable Industrial Vacuum Cleaner. Powerful. Portable. Picks up dust, dirt, chips, etc. Light weight. Large capacity.

Write for details and Free Trial Offer!

TAKE THE DUST OUT OF DUSTRY with BREUER'S BALL BEARING TORNADO PORTABLE ELECTRIC BLOWER

BREUER ELECTRIC MFG. CO.
5114 N. Ravenswood Ave., Chicago, 40

PROVED 150,000,000



TIMES! That many revolutions have been made by typical Deublin Rotating Water Joints without leakage or signs of wear! Used for cooling revolving cylinders or drums, these money saving joints have eliminated costly "down time" and reduced maintenance to periodic lubrication. Get Bulletin D-10.

DEUBLIN COMPANY
NORTHBROOK ILLINOIS

possible. He stated that when a photo-engraver was asked to reduce original copy eight times difficulty is then encountered in the work. Rather than furnish too large copy he suggested that photo copy be furnished to the engraver so that he can "snap-up" his reproduction. It is his opinion that between four and five tone values at most represent the maximum that should be used as newspaper copy. The artist and the photographer both should play the dark tones against the light in the copy so as to get as much contrast as possible because of the loss in sharpness in the eventual plate as it appears in the newspaper. The photo-engraver doesn't mind mechanical Ben Days if good judgment is used but he prefers laying the Ben Day himself when he has the time.

One of the peculiarities of newspaper advertising plate photo-engraving is that plates are usually marked "rush", which compels the photo-engraver to work under pressure. Hence, the necessity for furnishing as complete specifications as possible with copy entirely suited to the purpose. The layout should be accurate and complete.

He warned his listeners not to use soft vignettes and not to ask the engraver to cut out large white areas.

Effects of Newspaper Requirements on The Artist and His Work was the subject assigned to Hal Malmquist, President, Malmquist Studios, Cleveland. Mr. Malmquist stated frankly that he and his fellows are often puzzled at the poor newspaper reproduction of their brain children in newspapers. The artist is always pleased if someone gives him authentic information about the requirements of newspaper illustrations. He stated that the art director is the man who usually knows the limitations of the newspaper reproduction process and transmits them to the artist. By and large, however, he has seen a great improvement in the past 25 years in newspaper advertising illustrations. He stated that as result of the requirements of newspaper printing artists are resorting more and more to close line technique, scratch board and line work. Mr. Malmquist realizes that art work, in many cases, is not properly prepared. But he feels that this is due to the lack of instruction which should have been given the artist.

Fountain Setting Guide

MANY pressmen set the fountain by using a printed sheet as a gauge. Most of them locate the sheet for this purpose by measuring from bed bearer to form edge and then, in front of the fountain, measuring from a point they guess is in line with the bearer and, based on this guess, place the sheet so that the print is in line with the form. An accurate way is to place the sheet up to the side guide on the feedboard and mark center of press on this sheet. Place this center mark in line with center of fountain. If there is no mark on the fountain indicating its center, a nick may be made.

Making the Electrotype for Newspaper Advertising

J. Homer Winkler, Assistant Supervisor, Graphic Arts Division, Battelle Memorial Institute, Columbus, O., asserted that an electrotype is the finest plate that can be provided with respect to accurate reproduction of the original subject. He confirmed the previous speakers' statements that art copy should be suitably prepared, from that point on it makes no difference to the electrotyper provided the original engraving is etched properly, whether the plate for electrotyping purposes is magnesium, zinc, copper or jem metal.

Mr. Winkler suggested the proper selection of type faces is next in importance to proper copy preparation. In selecting type faces, long ascenders and descenders should be avoided. Cursive type faces should also be avoided. Screened backgrounds for type should be avoided entirely. Not only are screened type faces hard to read but the areas containing the screen fill-up in the stereotype plate on the press.

Mr. Winkler discussed the flexibility of the electrotyping process with respect to the making of corrections in original

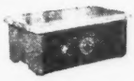
THERE IS A

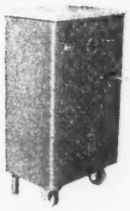
SYNTRON

"VIBRATING"

PAPER JOGGER

FOR YOUR JOB!



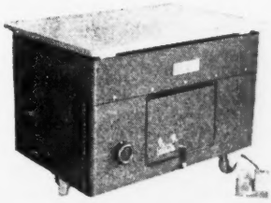


3 types—single action, double action and automatic.

7 styles—two table models, five portable floor models.

Eliminate slow, laborious hand pounding and riffling. Save you money and time.

Investigate their advantages—



Write for illustrated folder

SYNTRON CO.
577 Lexington
Homer City, Pa.

FAITHFUL MIDDLETONES

STAYBACK

SOLID BLACKS

Mud in your eye washes out—
And router chips leave their sting—
But Wood Dry Mats in curves
or flats
Help keep the detail in!

SAMPLES SENT FREE TO YOUR SPECIFICATIONS

DEEP MOLD

CLEAN HIGHLIGHTS

PLASTICITY

WOOD FLONG CORPORATION
HOOSICK FALLS • NEW YORK
New York City Office:
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The Royle Router

- A large table mounted on a rigidly constructed column.
- Convenient alignment and tightening of driving belts.
- Running parts designed to reduce vibration.
- Sufficient speed at cutter edge to route fine or rough out without reducing speed.
- Precisely fulcrumed elevating mechanism assures immediate reaction to pressure on the foot pedal.
- Changing cutter heads a matter of seconds.
- Speed and balance are built into Royle Routers.

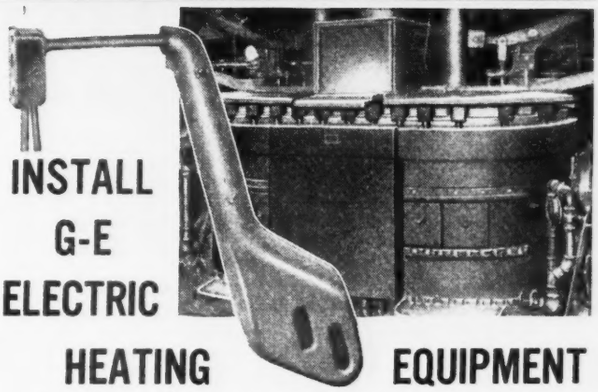
JOHN ROYLE & SONS

Established 1855

10 Essex Street **Paterson 3, N. J.**

IT'S EASY TO GET

FAST, UNIFORM CASTING



INSTALL G-E ELECTRIC HEATING EQUIPMENT

WHEN used in conjunction with any standard stereotype-metal furnace, G-E electric heating equipment will automatically provide the close temperature control so necessary for fast, uniform casting. Rejects are fewer, labor and attendance are reduced, and maintenance expense is cut to the bone.

For details, ask the G-E heating specialist in your locality. Or, write for Bulletin GED-650. *General Electric Company, Schenectady 5, N. Y.*

675-133-8708

GENERAL ELECTRIC

YOU'RE RIGHT ON THE TARGET...

WITH THIS NEW MODEL "45" C&G SAW TRIMMER

INSTANT, Accurate Saw Blade Adjustment. Just as easily and fast as pulling the trigger of a "45", the saw on the Model "45" C & G Saw Trimmer can be raised or lowered to exactly the sawing height required. A screw adjustment, accurate to .001 of an inch, always available.

STURDILY MADE, from new, light metals, the Model "45" Saw Trimmer includes such time-saving features as the Positive Work Holder, Right and Left-Hand Miter Vise, Chip Chute, Improved Angle Gauge.

Write for Illustrated Folder covering Model "45" Saw Trimmer and Accessories.

THE MORRISON COMPANY
(Formerly Milwaukee Saw Trimmer Co.)
125 W. MELVINA STREET, MILWAUKEE 12, WISCONSIN

plates. He warned, however, that correcting operations take time and cost money. He doesn't feel that it is up to the electrotyper to make author's corrections free of charge. One of the difficulties with advertising plate reproduction is that the agency man doesn't usually see the photo-engraving and must depend upon the photo-engraver as to its quality and suitability for newspaper electrotyping purposes.

The speaker suggested that large type areas should not be included in the original photo-engraving because of the shallowness of the reproduction. He said, however, electrotypes can be made of the type areas in 16 ga. or 11 pt. plate and inserted in the large electrotype.

A good quality electrotype pattern is the real secret of newspaper reproduction. The better the quality the better the duplicate plates will be.

All forms intended for electrotyping should be thoroughly cleaned up. All type matter should be on a level plane with clean sharp edges.

Sharper stereotype mats may be obtained from an electrotype plate that has been nickel or chromium plated. The plating may be obtained at a slight excess cost.

One of the difficulties encountered by electrotypers during the past few war years is that there is a tendency on the part of the buyers of electrotypes to see how quickly and how cheaply electrotypes can be obtained. The demand pressure is such that the electrotyper is compelled to get out two platemaking jobs in the time usually required to do one job.

The Plastic Plate for Newspaper Advertising

Eugene Williamson, President, Williamson & Co., Caldwell, N. J., discussed plastic printing plates. Mr. Williamson asserted plastic plates have proved themselves in newspaper advertising reproduction. He enumerated a number of large national advertisers who use them continuously. He stated that plastic printing plate, while not so good as electrotypes for a direct printing job, are the equivalent of an electrotype for newspaper molding purposes. For newspaper advertising reproduction he suggested making first a Vinylite mold and then an electrotype pattern. From that point on all subsequent plates could be molded from plastic material. He stated that 200 plastic duplicates could be made from a plastic mold.

Mr. Williamson described in simple fashion the technique of making plastic plates. He concluded this description by stating that generally no shaving is required on a plastic plate because of the molding technique which preforms the plate as a finished product. Plastic plates can be used in a direct pressure or a roller molding machine in the newspaper plant. It has been discovered that when heat is used in direct pressure molding there is not enough heat generated and transmitted through the molding combination or form to soften a thermoplastic plate.

Among the desirable properties of plastic plates are their molding qualities, their wearing qualities with respect to newspaper molding techniques, and speed of manufacture.

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The Single Color

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By I. H. SAYRE

THE PURPOSE of this book is to offer a detailed technical explanation of the operation of the small single color offset printing press. It also carries recommendations for approved methods of printing technique and press care which apply to all offset printing. Much of the technical operating information applies to all makes of small offset presses. Should be in the library of all executives interested in offset printing.

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The Mat Must Be Right If It Is To Print Right

George Fuller, Stereotype Superintendent of the Cleveland *Press*, and immediate past president of the Great Lakes Mechanical Conference, was called upon by Chairman Link to di cuss newspaper advertising reproduction from the stereotyper's viewpoint. Mr. Fuller stated that during the past three or four years, stereotype mats sent to newspapers for advertising purposes have been improved 100 per cent. He stated, however, the greatest complaint on the part of the stereotyper is due to the commercial photo-engraver not knowing requirements for pattern plates. He asserted that if the agency production men could be impressed with the difference between direct pressure and cold-rolled stereotype mats the situation would be helped considerably if direct pressure mats were given the preference in all cases.

He charged, in some instances, advertising agencies have ordered and paid for direct pressure molded mats, but instead the mat maker would furnish rolled stereotype mats which are not preferred by the stereotyper. Another practice which should not be indulged in is that of making a mat from the original pattern and then casting a plate from the mat, after which the one doing the molding would put the original pattern and the stereotype plate cast from that mat side by side so as to speed up the mat molding process. In other words one mat would be cast from the original pattern and the other mat, which is put through the machine at the same time, would be molded from the stereotype plate produced from a mat molded from the original.

He asserted that some platemaking plants make too many mats from an electrotype pattern. The first 20 mats will be all right, the next 50 to 75 produce variable results in newspapers. For the benefit of those concerned immediately in newspaper plants as well as in platemaking plants, another practice to be avoided is that of taking a stereotype mat from a cast for a rerun of an advertisement. Mr. Fuller cautioned his listeners that it should always be remembered that there is a loss in sharpness and detail due to successive removals when molding because of shrinkage in the mats.

Mr. Fuller complained about color advertising mats coming through without register marks. While the stereotyper can obtain the registration by pulling cellophane proofs, yet register marks will insure a better printed appearance in the paper.

He was emphatic in cautioning photo-engravers to avoid shoulders in the interstices between halftone dots. Even though a halftone may originally measure 0.006 in. or 0.007 in. in the highlights, the shoulder between the dot prevents the stereotyper from securing maximum depth in his mat to the extent of between 0.002 in. or 0.003 in. because the shoulder "stops the mat dead in its tracks." Mr. Fuller stated that highlights are a lot easier for the stereotyper to reproduce in newspapers than are the middletones. In order to reproduce the middletones successfully they must be definitely open.

During the discussion period Mr. Williamson stated that in a halftone plate having 0.008 in. depth in the highlights there is a loss of approximately 0.000024 in. in depth in a molded plastic plate. Mr. Williamson also explained that because of the development of a soldering iron containing a special blade, heated by electricity, plastic plates can be mortised, manipulated, finished and repaired in a manner which has heretofore been impossible of accomplishment. The plate being thermoplastic in nature, the heated blade on the soldering iron cuts through the plate readily.

In answer to a question George Fuller stated that in advertising campaigns where 50 to 60 papers must be supplied he recommended electrotypes or plastic plates in preference to stereotype mats. But for line and type work mats are preferable.

Mr. Wenning stated he doesn't believe any engraver would object to key line drawings. He recommended that blue color be used to indicate Ben Day on the copy. The difficulty, however, at the present moment is that some artists think they can use any shade of blue for this purpose. After considerable discussion it was unanimously agreed that the artist and photo-engraver should get together from an educational standpoint, with respect to the proper creation and reproduction of illustrative copy.

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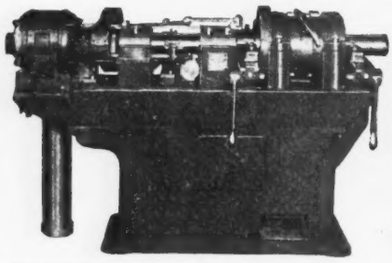

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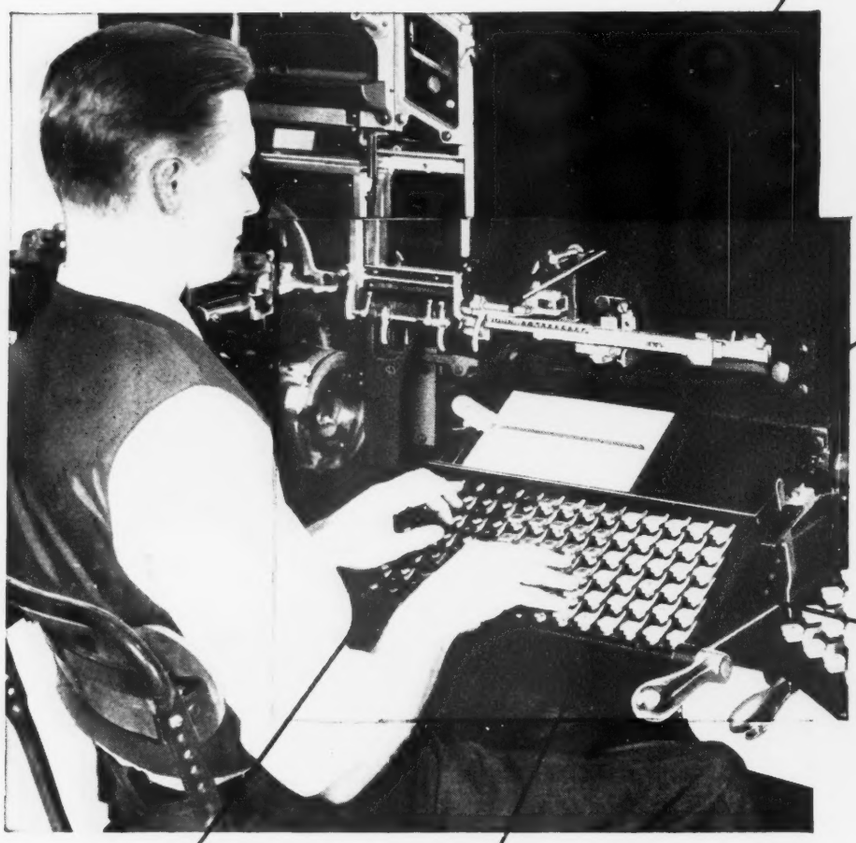

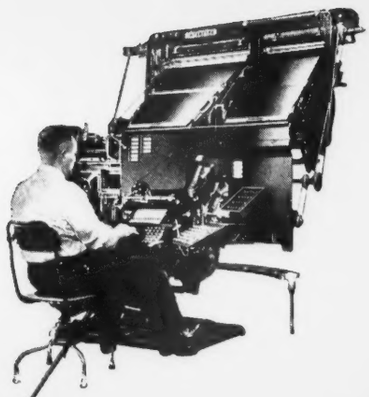

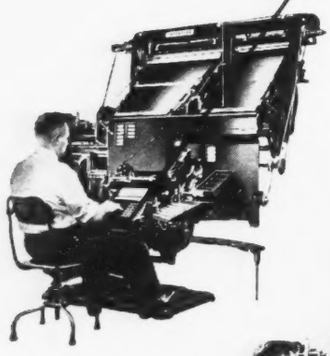

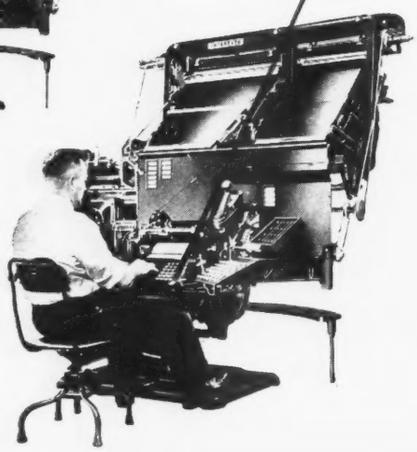

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